REALITY

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cum permissu superiorum

God, the Highest Truth, has created and guides human intellect, not that it may daily oppose new truths to rightly established ones but rather that having eliminated errors which may have crept in, it may build truth upon truth in the same order and structure that exists in reality, the source of truth.

Pius XII

Encyclical Humani Generis.

EDITORIAL NOTE

Ten years have passed since *Reality* first appeared in 1950. Under the inspiration of the late Fr. Emmanuel Suarez, then Master General of the Order of Preachers, and under the patronage of Fr. Edward L. Hughes, then Provincial of the Province of St. Albert the Great, this publication was founded for Dominican students desirous of writing for other students. Limited in circulation and financially unrewarding, the venture is a testimony to the vision, solicitude and generosity of our superiors. In his introductory message Fr. Hughes wrote: "*Reality* is to be their training ground for the apostolate of the pen which is mightier in our day than ever before." Many of the early contributors, trained in this arena for beginners, have taken their place in the apostolate of the professional pen. They perhaps more than others appreciate the importance of such training and the value of *Reality* as a modest stimulus to scientific writing.

The enthusiastic reception given to past issues of *Reality* by thoughtful readers not only within the Province, but throughout the world, indicates that a standard of excellence can be set by capable students eager to express the truth. Teachers of philosophy and religion as well as students have found in its pages a gold mine of information and thought. With no undue pretensions, our contributors feel that there is always need to re-examine the basic problems of mankind and to restate the perennial truths for our modern world.

The last issue of *Reality* appeared in the spring of 1957. Since then numerous inquiries have poured into the office concerning our unexplained delay in publication. With deep gratitude to the Very Reverend Edmund J. Marr, Provincial, and to our professors at River Forest and at Dubuque, the editors are proud to present the present volume as an annual. We sincerely hope that it will be as well received as the earlier issues; we pray that the standard previously established and the utility attained will continue.

Since our last issue the world has been blessed by the election of Angelo Giuseppe Cardinal Roncalli to the papal throne. Already the warmth, sincerity, prudence and pastoral concern of John XXIII have made a deep impression on both Catholics and non-Catholics. Guided by the Holy Spirit, Pope John XXIII has decided to convoke an Ecumenical Council to deal with current problems, particularly those involving Christians now separated from the Holy See. The Second Vatican Council will undoubtedly be the most important ecclesiastical event of the twentieth century.

In a spirit of devotion and loyalty the editors humbly dedicate this anniversary issue of *Reality* to his Holiness Pope John XXIII on the second anniversary of his elevation, October 28, and his coronation, November 4. We pray that his pontificate may be a reign of peace, secular as well as spiritual: *Pax tibi Marce, Evangelista meus.*

THE SECOND REGENCY OF ST. THOMAS AT PARIS

Conventional Portraits of St. Thomas too often misrepresent him entirely. It is a common notion that he lived out his life cut off from the happenings of men and that the unhurried serenity of his works is an accurate indication of the circumstances in which he lived; in short, we are tempted to think that his character was as abstract and detached, as intellectual and impersonal as his *Summa Theologiae*. Of course, no representation of the saint could be so untrue to historical fact. Therefore it is the purpose of this paper to give a truer and more accurate picture of St. Thomas by showing the atmosphere in which he lived and the problems he had to deal with during one particular period of his life, his second term as regent master of theology at the convent of St. Jacques in Paris. This period was quite short and extended only from the early part of 1269 until April of 1272, but this short span of less than four years was at once the most fruitful and the most turbulent of St. Thomas' entire career.

The personal prestige and renown of St. Thomas had changed considerably between the time he left Paris in 1259 and his return there ten years later. When he left Paris the first time as master, St. Thomas was considered little more than a promising young professor of theology, and few suspected the revolution he was to bring about in the academic world. During his stay at St. Jacques from 1252 until 1259, he had given evidence of his intellectual brillance both as a bachelor and then as a master of theology. He had written a masterful commentary on the *Sentences* of Peter Lombard and had proved himself to be a subtle expositor of the Holy Scriptures. But even more, he had conducted an

exciting and profound series of scholastic disputations, the result of which are his *Questiones Disputatae De Veritate,* in which he had shown himself to be exceptional in his penetration and use of the newly discovered and difficult teachings of the Philosopher, Aristotle. He had likewise emerged as a first rate polemicist when he defended the ideals, life and work of the mendicant orders against the attacks of William of St. Amour and the other secular theologians by his opusculum *Contra Impugnantes Cultum Dei.* So when St. Thomas left Paris, he could look back on a good many accomplishments: he had won fame as one of the leading masters of theology, he had contributed to the silencing of the anti-mendicants, and he had produced a masterful theological work in his *De Veritate.*

But it was during his residence in Italy from 1259 to 1268 that St. Thomas gained his great renown and emerged as the most original thinker of all Christendom. For it was here that he wrote the first part of his great masterpiece, the *Summa Theologiae,* wherein he made a unique application of the principles and method of Aristotle not to questions of philosophy, but rather to those of theology. The appearance of this remarkable work was met with mixed feeling—it was regarded by all as a work of genius, but there were many theologians who greatly feared this bold use of Aristotle in theology. On the other hand, there was at Paris a number of philosophers who had integrally adopted the Averroistic interpretation of Aristotle, and professed themselves to be the true Aristotelians. Some of their doctrines were heretical, and they were becoming daily more influential. Their most pernicious doctrine was the Averroistic interpretation of Aristotle's teaching on the soul, namely that there is only one intellect for all men, a doctrine that is clearly destructive of personal immortality. Now St. Thomas had already shown conclusively in his *Summa Contra Gentiles* that such a doctrine was not true to the Philosopher's thought.[1] But the *Summa Contra Gentiles* was not a continuous exposition of Aristotle, whereas Averroes' commentary was, and gave evidence that the latter had a profound understanding of the Philosopher's work. Thus Averroes had a strong claim to be considered as the true expositor of Aristotle. So it was at this time, in 1266, that St. Thomas began his own commentaries on the works of Aristotle in order to counteract Averroes' influence. He was still at work on them when in 1268 he was appointed to Paris for the second time.

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[1]St. Thomas, *Summa Contra Gentiles* (ed. Leonina, vol. XIII, Rome 1918), lib. II, cc. 76, 77, 78.

The reappointment of St. Thomas to Paris has all the marks of urgency about it. First of all, a second regency at Paris was a rare occurence in the Dominican Order.[2] For it was the custom at the time to have as many masters of theology as possible. The return of an old master would prevent the inception of a new one. Therefore the reasons for such a return had to be very serious. Also, we find St. Thomas leaving Viterbo in November of the year 1268, after having already begun the school year in Italy. This would seem to indicate that the reappointment of Thomas to Paris was a snap decision by the Master General, but we know for a fact that this was not the case. For ever since Latin Averroism appeared at Paris, the Dominican Master General, John of Vercelli had begun preparations to send his best master to the University to settle the doctrinal difficulties.[3] He had at first hesitated in his choice between Thomas and Albert, but upon consultation with the latter, who claimed that St. Thomas was the one best suited for the difficult assignment, he had informed St. Thomas in the Spring of 1268 that he should prepare to leave for Paris. We do not know why he should have chosen such an inopportune time as the following November to have Thomas change assignments; all we can do is note the fact that St. Thomas left Viterbo in November of the year 1268 and arrived in Paris two months later, i.e., January of 1269 when the school year was already half over.

It would be well here to describe the general conditions at the University which confronted St. Thomas upon his return. First of all, student life at Paris had not quieted down any since his first regency, but had become even more disorderly and harder to handle. Not infrequently the restraints imposed by the University officials upon the unruly students would give way entirely, and a good portion of the student body would riot, raiding taverns, beating-up bartenders and citizens, attacking virgins, and generally disrupting the social order. In January, 1269, the very month of St. Thomas' arrival, the officials of the episcopal court of Paris were forced to issue a proclamation excommunicating any student caught

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[2]Peter of Tarantaise is the only other Dominican master to have held two regencies at Paris. The reasons for this second assignment are unknown. Cf. P. Glorieux, *Répertoire des Maitres en Théologie de Paris* (Paris: Vrin, 1933), II, p. 107 ff. A third Dominican master, William of Hotham, was assigned to a second regency at Paris by the General Chapter of 1287 (cf. *Acta Cap. Gen. O.P.*, I, 242), but for some unknown reason Hotham neglected to comply with the injunction; the General Chapter of Lucca in May, 1288 severely censured him and entrusted his punishment to the Master General. Cf. Glorieux, *op. cit.*, I, p. 144.

[3]Cf. P. Mandonnet, O.P., "Thomas d'Aquin, Lecteur à la Curie Romaine," in *Xenia Thomistica* (Rome 1925), III, pp. 34-35, and note 6.

going about Paris by day or night armed.[4] Thus student life at Paris during St. Thomas' regency was not quite like the type we might expect to find today at a staid Eastern college.

But if moral disorder was prevalent among the students, there existed an intellectual disorder that was no less prevalent among the faculty. The University of Paris was divided into four faculties or schools: Arts, Medicine, Canon Law, and Theology, and it was the Faculty of Arts that was the source of the disorder, which was indeed the primary cause of St. Thomas' return to Paris. For it was in the Faculty of Arts that philosophy was taught, and a group of philosophers, or artists, had begun to proclaim doctrines which seemed clearly heretical. The leader of this group of artists was a brilliant philosopher who was to prove the most formidable opponent of St. Thomas at Paris. His name was Siger of Brabant and the movement he headed has been given the name of Latin Averroism. Latin Averroism had first begun during St. Thomas' residence in Italy, probably around 1265-1266, and by now had become very prevalent among the students and professors of the faculty of Arts. As a habit of mind, it identified philosophical truth with Aristotle, and Aristotle with his greatest commentator, Averroes. Without doubt Averroes had a profound grasp of Aristotle's doctrines, and not only commented on all his works, but clarified what was vague, and supplied what was lacking in the Philosopher's thought. Further his commentaries surpassed in excellence those of his predecessor and fellow Arabian, Avicenna. However, Averroes had drawn from Aristotle many conclusions that contradicted the Christian faith. Theologically the most important Averroist thesis was that there existed only one intellect for the whole human race, i.e., that the agent and possible intellect were separate and one for all mankind. Thus man's immortality could not be personal and individual, for all that is eternal in the individual would belong to the separate intellect in which he participated. Averroes held that this was a necessary conclusion of natural reason. He also drew other conclusions which he held to be just as necessary and which were just as heretical, namely that God does not know singulars; that human actions are not subject to His providence; that the world is eternal; and the man does not have free will.[5] Therefore any Christian who held that Averroes represented the perfection of natural reason was necessarily driven to one of two conclusions: either that

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[4]Cf. Lynn Thorndike, *University Records in the Middle Ages* (New York: Columbia Univ. Press, 1944), pp. 78-80.

[5]Cf. P. Mandonnet, O.P., *Siger de Brabant et l'Averroïsme Latin* (Louvain, 1911), vol. I, pp. 143-195.

what is true according to reason could be false according to faith or that the truth is really on the side of faith, and that reason, in consequence of original sin, has become so obscured that it can no longer see even natural truth. The Latin Averroists were just such Christians.

It did not take long for the Faculty of Theology to react violently against these Latin Averroists. For masters of theology at Paris wanted neither to despair of natural reason, nor admit of the double truth. They were of course perfectly justified in their intentions but the solution they proposed was to attack fiercely as heretical not only Latin Averroism, but also Aristotle and anything and everything Aristotelian. They opposed the teachings of Aristotle to the traditionally accepted teaching of St. Augustine and the other Fathers. Hence a continual and strongly organized opposition began to arise, and Augustine's name was invoked as the battle cry against Aristotelianism. The leaders of these so-called Augustinian masters of theology were St. Bonaventure, the Franciscan regent of studies, John Peckam, and several secular theologians. They looked upon St. Thomas' return with apprehension, for here was an avowed Aristotelian who was now approaching, and since he had not as yet openly proposed any heretical doctrines, nor was there any hope that he would recant his previous Aristotelianism, they knew it would be their task to prove if possible that his use of Aristotle also was heretical. Knowing St. Thomas' readiness to engage in any intellectual battle, and realizing his tremendous ability, they prepared themselves for the clash they saw to be inevitable.

But besides the Latin Averroists and the Augustinians, there was still another group present at Paris that awaited St. Thomas' return with misgivings. This group consisted of the secular theologians who opposed the mendicant Orders in general and desired their expulsion from the University. Now it is true that the most bitter of these seculars, William of St. Amour, had already been banished from Paris, and that the dispute between the seculars and the mendicants had been quiet for some years now. But William still had friends at the University, notably Gerard d'Abbeville and Nicholas of Lisieux. These men were waiting for an opportunity to resume their attack on the mendicant Orders, and now that St. Thomas, the Aristotelian, was returning they knew that when they reopened hostilities, he would not be long in coming to the defense of his Order.

So when, in January of the year 1269, St. Thomas Aquinas stepped into his professor's chair at St. Jacques, he faced the prospect of having

to fight simulanously a battle on three fronts—first against the Latin Averroists with their leader, Siger of Brabant; secondly against the Augustinians who were headed by John Peckam; and finally against the seculars, in the persons of Gerard d'Abbeville and Nicholas of Lisieux. The story of how he conducted himself in that battle, waged continuously from 1269-1272, is St. Thomas' greatest glory.

But before we explain how he handled these problems, let us first examine briefly what the official and academic duties of St. Thomas were as a master of theology at Paris. The Dominicans held two professorships in theology at St. Jacques, one reserved for members of the French province, and the other for members of all the other provinces. It was this latter professorship that St. Thomas resumed. His principal duty was lecturing on some book of either the Old or New Testament. He delivered these lectures, which were attended both by secular and regular students, between the hours of Prime and Tierce, i.e., from about seven to nine o'clock, and then he turned the class over to his Bachelors, who would lecture cursorily on the Bible or on the *Sentences* of Peter Lombard until the hour of None. Besides delivering his lectures, St. Thomas had to preside at disputations and to preach. The disputations were of two types: the ordinary *quaestiones disputatae,* which were held regularly throughout the year; and the extrordinary disputations, called *quodlibetales,* which were held during Advent and Lent. Finally, the sermons were preached several times a year, and were delivered in the presence of the students and the other masters of the University who were obliged to attend. These lectures, disputations, and sermons, then, were the official duties of St. Thomas as regent master in theology; all his other activities at the University were extracurricular.

No sooner had St. Thomas begun to teach than the secular masters renewed their attack on the mendicants. Gerard d'Abbeville, in his preaching and teaching, again began to vilify the mendicants along lines similar to those used by his predecessor and friend, William of St. Amour. St. Thomas immediately met Gerard's attack in his own sermons and teachings. In 1269, Gerard wrote a book entitled *Against the Adversaries of Christian Perfection,* the adversaries of course being the mendicant orders. St. Thomas answered this work in the same year by writing his opusculum *De Perfectione Vitae Spiritualis.* But St. Thomas' answer incited Gerard's companion, Nicholas of Lisieux, to publish his own work against the mendicants, which was entitled *On the Perfection and Excellence of the Clerical State.* In this work, Nicholas sought to keep men from entering

religion by arguing that no one could vow himself to keep the counsels until he was first perfect in the precepts, and that even then, before entering one should seek the advice of as many people as possible. St. Thomas replied to these arguments as promptly as he had replied to those of Gerard, and in that same year, 1270, he wrote his opusculum *Contra Pestiferam Doctrinam Retrahentium Homines a Religionis Ingressu.* For St. Thomas, a man who would use sophistical arguments to keep men from dedicating their lives to Christ is a tool of Satan, and he used the following language to rebuke Nicholas and the other seculars: "The devil, being envious of human salvation, has not ceased since ancient times to impede this holy and salutary desire, by means of carnal men, who are enemies of the Cross of Christ, and are mindful only of worldly things. . . . But we shall here show that the reasons they use to make their assertions are stupid and frivolous." And after showing in some fifty pages of arguments, how empty and frivolous these reasons are, he ends his work with the following words: "If anyone should wish to contradict what I have written, let him not babble in the presence of children, but let him write, and propose his writing in public, so that what is true may be judged by the intelligent person, and what is false may be confuted by the authority of truth."[6]

But the dispute with the seculars was merely one of St. Thomas' worries. He had come to Paris principally to meet the Averroist threat. This he intended to do by distinguishing Aristotle from Averroes, and by proving that the Commentator was in reality the Corruptor of the Philosopher. But he found his task greatly complicated by the opposition of the Augustinian theologians, for every time he attempted an exposition of Aristotle's thought, the doctrines he proposed were claimed to be contrary to the faith. This attitude rather irked St. Thomas, and we read in his *De Aeternitate Mundi* the following references to these theologians: "Those who can find contradictions to the faith here," he writes, "must have much more subtle minds than I; but, after all, are they not the only real wise men?"[7] But in the minds of these wise men, Aristotle had erred, and had fallen into the most abominable errors: therefore men should beware not to follow him, lest, being led on by his seeming wisdom, they be deceived concerning his errors. We find this opinion expressed by St. Bonaventure in his *Collationes in Hexaëmeron,* preached before his

[6]St. Thomas, *Contra Pestiferam Doctrinam Retrahentium Homines a Religionis Ingressu* (ed. Parma, *Opera Omnia,* vol. XV), cc. 1 and 6.

[7]St. Thomas, *De Aeternitate Mundi* (ed. Parma, vol. XVI, pp. 319-320). Translation by R. Coffey in *The Man from Rocca Sicca* (Milwaukee: Bruce, 1942), p. 114.

brethren in Paris. Commenting on the fourth verse of the first chapter of Genesis: "God separated the light from the darkness," he likens the darkness to the ancient philosophers, namely Aristotle, who by blindness to the truth fell into error concerning exemplary causes, God's knowledge of singulars, the eternity of the world, and the unity of the intellect. Bonaventure states: "These philosophers fell into error; they were not divided from the darkness. And their errors are most abominable, while the philosophers themselves are the darkness of Egypt. For although it might seem that there was a great light in the ancients because of the sciences they treated, all their light has been extinguished because of these errors. But in our own day, seeing that Aristotle is so great in many of his teachings, and seeing that the latter are true, some philosophers are not able to believe that he did not speak the truth also with regard to the errors he made."[8]

Such was the attitude of the Augustinian theologians, and St. Thomas differed from them especially in his doctrine of the unicity of substantial forms, and the incorporeity of angels. These theologians, headed by the Franciscan regent of studies, John Peckam, had succeeded in convincing Stephen Tempier, the bishop of Paris, that the heretical Averroistic theses should be condemned. They now tried to obtain the condemnation of St. Thomas' innovations. But Bishop Tempier was not fully convinced of their heretical character, so Peckam took it upon himself to prove the heresy of Thomas' doctrines. He got his opportunity when in the spring of 1270 it was announced that one of St. Thomas' quodlibets would treat the problem of the death of Christ, which involved his doctrine on the unicity of substantial form. Knowing that Bishop Tempier would be present, Peckam attended the disputation prepared with his arguments against the thesis. After the statement of the thesis, St. Thomas answered the objections of various students and masters. Peckam then rose and presented his objections, not with the usual scholastic urbanity, but rather in a tirade of bombast and ridicule. St. Thomas, always replying with great humility and self-restraint, completely destroyed Peckam's arguments and reduced him to speechlessness. So profound was the effect of St. Thomas' evident humility and sanctity on Bishop Tempier, and so complete was his victory over Peckam, that his theses were not included in the condemnation, eight months later, of thirteen Averroistic theses. And even, in 1277, when Bishop Tempier censured two hundred and nine-

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[8]St. Bonaventure, *Collationes in Hexaëmeron* (in *Opera Omnia*, vol. V, Quaracchi, 1891), collatio VI, n. 5.

teen propositions which embraced not only manifestly erroneous Averroist teaching but also several Thomist theses, that of the unicity of form was still not included.[9]

But the seculars and Augustinians were minor problems to Thomas compared with those which the Latin Averroists were presenting. For the influence of Siger of Brabant was very great among the students and professors of the faculty of arts. Now St. Thomas, who did not become in the least perturbed when Peckam hurled insults at his teaching and person, was angered at the thought of the brilliant Siger deceiving the minds of the young students of philosophy. In a sermon delivered before the faculty and students of the University, he excoriated the pretensions of those Averroistic masters who claimed that their heretical theses were necessary conclusions of reason since Aristotle had held them. "There are found," he states, "some who study philosophy here and who maintain doctrines which are not true according to the faith; and when it is pointed out to them that these doctrines are contrary to the faith, all they say is that the Philosopher holds them, although they themselves do not assert them, and so they just parrot the words of the Philosopher. I say that such a person is a false prophet and a false doctor, because to propose a doubt and not to solve it is the same as to concede it. Such people are signified in the book of Exodus, where it is said that anyone who digs a ditch or opens a cistern and does not cover it is held to restitution if his neighbor's cow comes along and falls in. For he who proposes a doubt concerning a proposition of the faith is like one opening a cistern. And he does not cover that cistern when he does not solve that doubt, though he himself may have a sound and clear understanding of it and be not deceived. But some one else, who does not have such a clear understanding of it, is completely deceived, and therefore he who moved the doubt is held to restitution, for it is his fault that the other person fell into the ditch."[10] St. Thomas again expresses himself strongly in the opusculum *De Unitate Intellectus Contra Averroistas,* where he ends his refutation of the doctrine of one separated intellect for all men with the following words: "If ayone, laboring under the delusion that the teaching he proposes is real science, wishes to dispute anything I have written, let him oppose this treatise if he dare. I mean oppose it publicly, and not by speaking in corners or by refuting it before youngsters who are not

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[9]Cf. Denifle, *Chartularium Universitatis Parisiensis* (Paris, 1889), I, pp. 486-7; p. 543 ff.

[10]P. A. Uccelli, *S. Thomae Aquinatis et S. Bonaventurae Balneoregiensis Sermones Anecdoti* (Mutinae, 1869), p. 71; quoted by Mandonnet, *Siger, ed. cit.*, p. 109, note 1.

mentally mature enough to be judges in matters of this kind. If he wishes opponents, he will be able to find plenty, and not only myself, who am the weakest of the lot, but a host of others who love truth and will be only too willing to refute his errors and instruct his ignorance."[11] But St. Thomas did much more than merely attack the Averroist teachings directly; for he wanted to solve the problem at its very roots by showing that all of Aristotle could be literally interpreted in a way that was not Averroistic and that did not contradict the faith. As was said above, he had already begun to comment on Aristotle while he was in Italy, when the Averroistic thesis of the separated intellect had begun to gain influence. He had completed his commentary on the *Physics* before 1269. But now, at Paris, he wrote his commentaries in real earnest, producing commentaries on the *De Anima, De Memoria et Reminiscentia, De Sensu et Sensato,* the *Metaphysics,* the *Ethics, Meteorology, Peri Hermenias, Posterior Analytics,* four books of the *Politics,* the *De Caelo et Mundo,* and the *De Generatione et Corruptione.* With these commentaries he hoped to establish that neither Aristotle nor his own use of Aristotle in theology, were contrary to the faith, thus disposing of Latin Averroism and objections to his Aristotelianism for good.

While he was writing these commentaries, St. Thomas worked simultaneously on his *Summa,* and managed to complete the entire *secunda pars* in these three years at Paris. This is the longest part of the *Summa* and consists of three hundred and four questions comprising one thousand six hundred and sixty nine articles. Thus St. Thomas had to complete on the average over four articles a day. He also wrote eleven of his *opuscula* during this period. In order to produce such an immense amount of work, he made use of as many as four secretaries, and it is related that so intense was his concentration during his dictation to them, that even when forced to rest from exhaustion, he would continue dictating while asleep. If one considers the vast amount of material written during this period: commentaries on ten of Aristotle's works, the *secunda pars* of the *Summa Theologiae,* and eleven *opuscula,* in addition to his ordinary duties as regent master at the University, one is staggered by the productivity of the saint. Indeed, it might be said that these three years at Paris mark the most fruitful part of St. Thomas' life and is the time of his hardest labors. He was still hard at work writing, lecturing, disputing, when in the spring of 1272 conflicts over the administration of the university

[11]St. Thomas, *De Unitate Intellectus Contra Averroistas,* cap. 5, n. 124. ed. Leo W. Keeler, S.J. (Rome: Univ. Gregoriana, 1946), p. 80.

caused a general suspension of classes and he was recalled to Italy by the Master General. Thus in May of the year 1272, St. Thomas' second regency at Paris comes to an end.

When St. Thomas left Paris that spring, he could look back on many achievements. He had again effectively aided in suppressing the dispute between the mendicants and the seculars in his writings and preaching. Also by his preaching and teaching he had defended his staunch Aristotelianism. And finally, by his commentaries, he had given the world an objective interpretation of Aristotle to supplant Averroes. But despite these labors we must say that St. Thomas was an apparent failure. For he had come to Paris to vindicate his use of Aristotle in theology, and he found in the Augustinians an opposition to Aristotle so firmly rooted that not even he could drive it from their minds. Under their influence, many of his doctrines would in the years to come be condemned both at the University of Paris and at Oxford.[12] Men were not ready to accept the innovations he had introduced. As for Thomas himself, he would go on expounding the truth by his writings and teaching for two more years until his death, leaving the final vindication of his doctrines to his brethren in the Order. But St. Thomas had never sought to please men. Rather his one purpose in life was to serve God by diffusing the light of truth. And in this matter, no one can say that St. Thomas Aquinas was a failure.

Vincent Ferrer Sist, O.P.

[12]Cf. Denifle, *Chartularium Univ. Paris.*, I, p. 543 ff. Theses 81, 96, 129, 173, 191 and 204 are among the most important Thomistic theses included in the Paris condemnation.

SIGER OF BRABANT AND LATIN AVERROISM

In the Third Quarter of the Thirteenth Century, three philosophical systems, neo-Platonism, Latin Averroism and Aristotelianism, competed with each other in an attempt to obtain supremacy in the speculative thought of the West. Latin Averroism had the shortest period in which to exercise its influence; and yet, as its direct result, the golden age of scholasticism was brought to a close. Averroism derived its title from an Arabian philosopher, *Ibn Rochd*, whose name when translated into Latin took the form Averroes. Averroes' influence upon the thought of western Europe was second only to Avicenna's. Averroism, primarily a philosophical error, had its origin at the University of Paris sometime after the middle of the thirteenth century. Certain masters in the factulty of arts maintained a number of philosophical conclusions opposed to the truths of Faith. These conclusions were upheld with the assertion that they were the only conclusions possible to the natural intellect. Siger of Brabant was the acknowledged leader of this school of thought.

It is not easy to say at what moment the school of thought designated by the name "Averroism" became a specific entity. It certainly existed anterior to the date of its first condemnation in 1270. Siger, a figure obscured by the passage of centuries, has only recently emerged as a definitive character. In order to present him in proper prospective, we shall consider the three schools of philosophical thought which were contemporary with his career, the faculty of arts in which his life is circumscribed, Siger's life and the condemnations of 1270 and 1277, his extant writings, and a critique of the fundamental Averroistic error. We shall see that Siger was a controversial figure in his own age. In our time, he has called into being new controversies. The interpretation of

the error which he supported and the authenticity of certain works attributed to him are controverted. Universal agreement upon the chronology of his works is likewise lacking. It is not our intention to provide solutions for these difficulties, but we shall indicate their existence.[1]

THIRTEENTH CENTURY PHILOSOPHICAL SCHOOLS

With the translation of the Greek and Arabian philosophers in the twelfth and early thirteenth centuries there developed a corresponding process of assimilation. The Parisian condemnations of Aristotle in 1210 and 1215 are signs of the strain created by the growth of the intellectual horizons of the thirteenth century. In 1231 Gregory IX commissioned three masters to revise Aristotle and purge him of error. Despite the condemnations which were never removed and the failure of the commission to produce satisfactory results, Aristotle was taught at Paris. By 1255 the statutes of the University made attendance at the lectures on Aristotle a prerequisite to the degree of master.

The Aristotelian text is not easy to understand, and the various commentators had not helped matters. Alexander of Aphrodisias' commentary upon Aristotle's *De Anima* is apropos in this context. In an obscure passage wherein the Philosopher distinguishes between the possible intellect and the agent intellect, Aristotle says that the intellect as such is "separatus a materia." Did Aristotle think that the intellect was a substance existing without matter, or is it rather a potency of the soul? Alexander denied that the intellect was a "potentia animae." Instead, he made it extrinsic to the soul. The Arabian interpreters of Aristotle adopted Alexander's position. Averroes, who taught that the intellect is one for all men, is the logical culmination of the Aphrodisian interpretation of Aristotle. This is but one of the new doctrines, or errors as the case might be, that the West had either to assimilate or refute.

With the passage of time after the introduction of the new knowledge, three schools of thought developed. Each one is opposed to the other two. These schools are: the traditional theological position which had held sway in the West since the time of Augustine, the modern attempt to understand and employ the newly acquired knowledge, and lastly, the acceptance of this knowledge as the highest achievement of human reason beyond which it was impossible to proceed.

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[1]The first difficulty that arises concerns itself with the correct name of the error. F. Van Steenberghen favors the name "radical Aristotelianism" or "heterodox Aristotelianism." If understood correctly as the unhesitating acceptance of Aristotle as interpreted by Averroes, Averroism is a meaningful title.

In the first half of the thirteenth century, theology was based principally upon the bible and the writings of St. Augustine. A fundamentally Platonic philosophy was employed in the exposition of its concepts. Characteristic of the traditional theological tradition was the absence of any distinction between philosophy and theology, the attribution of positive actuality to prime matter, the notion of seminal reasons and illuminism. When Aristotle appeared in translation, a tendency to extol Plato for his theory concerning the existence of ideas arose. Concomitantly there developed a criticism both of Aristotle and Aristotelianism. Virtually contained within this system, the theory of the plurality of substantial forms actually evolved with the translation of Avicebron's *Fons Vitae.*

It is natural for tradition to resent and resist anything which proceeds in a manner foreign to it. That opposition to Aristotle was present is actually the case. New vistas were opened, and new and original solutions were proposed not only to new problems but also to many which had been answered previously. The direction given to the new learning and its synthesis was largely the work of St. Albert the Great and St. Thomas Aquinas. Their doctrinal position was opposed both to the traditional system of thought and to the Averroists. In opposition to the Augustinian theory they distinguished carefully between philosophy and theology, and they accepted Aristotle as substantially correct in his philosophical conclusions. If this position is allied to Averroism in that it accepts Aristotle as the Philosopher *par excellence,* it was opposed to Averroism on the interpretation of Aristotle. The Averroists identified Averroes as the authentic interpreter of Aristotelian thought, and they considered Aristotle as the epitome of natural reason. Although the Averroists admitted that their conclusions were in opposition to the Faith, they held that these conclusions were the only ones possible to human reason. Four errors characterized the Averroistic system: affirmation of the fact that the human intellect is numerically one and the same for all men, the maintenance of the eternity of the world, and negatively, the denial of free will and the denial of the operation of divine providence in the order of contingent singulars.

THE PARISIAN FACULTY OF ARTS[2]

The intellectual center of western Europe in the thirteenth century was the University of Paris. Students came from all parts of Europe

[2]Cf. Pearl Kibre, *The Nations in the Mediaeval Universities,* The Mediaeval Academy of America, (Cambridge, 1948). Throughout this section this book served as a source.

to study at its school. The University was divided into four faculties: arts, law, medicine, and theology; the arts course served as the prerequisite for admission to the other faculties. Together these faculties composed a "universitas magistrorum et scholarium" or guild of masters. Students studying under the masters of arts were not legitimately members of the guild of masters. Master's degrees were obtainable only upon the fulfillment of certain conditions of which the two most important for our study are that the students shall have attended the required lectures and that he have reached his twenty-first year.

A peculiarity of the faculty of arts, found in none of the other faculties, was its division into four nations. A student's relationship to the nation was through his master since only regent masters in arts could enter the assemblies of the faculty or individual nation.[3] The nation included masters from various lands; the predominating locality represented gave its name to the whole association of which it was a part. By 1249, when the distribution of the masters was clearly delineated, four nations existed. These were the French nation, the English nation, the Norman nation, and the Picard nation. The last was made up of masters from the low countries and nothern France.

Headed by an elected official, the Proctor, each of the four nations was an autonomous unit which held its own assemblies, made and enforced its own regulations, and administered its own schools which were located for the most part on the Rue du Fouarre. Each nation also had its own treasury and seal, its own patron saints, church, and feast days. Besides supplying an organizational and fraternal society for the masters in arts, the nations participated in the academic exercises of the University and in the organization and administration of the curriculum, and through their representatives they elected the Rector or head of the arts faculty. Finally, the nations provided a means by which foreign students could compete on terms of equality with the inhabitants of France.

The nations were autonomous units and dissension and physical strife often arose between them. One of the causes for this was the lack of clarity with which the borders of nations were defined. A large number of regent masters would necessarily bring prestige to the nation; besides,

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[3] *Chartularium Universitatis Parisiensis*, ed. by H. Denifle, O.P. and E. Chatelain, 4 Vols., (Paris, 1889-97) Vol. I, p. 531, no. 461. In subsequent citations the *Chartularium* will be abbreviated as CUP.

and perhaps this is more important, the inception of a master entailed the payment of certain fees to the nation. Our first historical reference to Siger of Brabant is found in the document settling the quarrel that arose in 1266 over the inception of Jean de Ulliaco. Although his residence was in Picard territory, Jean had expressed the desire to incept in the French nation. The members of the Picard nation seized him bodily in an effort to prevent such a course of action. In the ensuing conflict other controversial matters were introduced. The French nation tried to assert its authority since it was resentful of the fact that although it was numerically superior to the other three nations it nevertheless possessed only one vote in the affairs of the University. This nation even went to the extreme of separating itself from the other nations and electing its own rector.

Simon de Brie, the papal legate, finally achieved a settlement both of the dispute and of the schism. In the future when a scholar was claimed by two nations, he was free to choose the one in which he would incept. The legate attempted to prevent the occurrence of schisms between the nations by establishing a board of seven judges, three of them senior masters in theology and four of them senior masters in canon law. When a nation believed it had a just cause for complaint it was to bring its grievances to the tribunal; and if the month passed without decision, the case devolved upon the bishop of Paris. Those nations found guilty were to conform to the decisions of the board under pain of excommunication. Lastly, Simon sought to prevent the frequency with which disputes arose over the election of the rector by prolonging his term from six weeks to three months. The days set for this election were the first day of class after the feast of St. Denis (Oct. 9), the last day of school before the Christmas vacation, the last day of class before the feast of the Annunciation (Mar. 25), and the last day of school before the feast of St. John the Baptist (June 25).

THE LIFE OF SIGER OF BRABANT AND THE CONDEMNATIONS OF 1270 AND 1277

In the thirteenth century Brabant was a duchy of the Holy Roman Empire. Today this land is divided between northern Belgium and the southern Netherlands. A canon of St. Paul's in Liege, Siger was, in all likelihood, born in that Diocese.[4] The exact dates of his birth and death are not known. The fact that he was cited by Simon de Brie in 1266 would indicate that he was born sometime in or before the year 1245. His death

[4]A. Dondaine, O.P., "Le manuel de l'inquisiteur (1230-1330)" *Archivum Fratrum Praedicatorum*, XVII (1947), 188.

took place anterior to November 10, 1284. From what we know of his life it was a troublous one.

John of Peckham, Bishop of Canterbury and a decided enemy of Aristotle and his interpreters, implies that Siger and his companions were the originators of Latin Averroism. Although the date of Averroism's origin is obscure, there can be no doubt about the fact that Siger was its outspoken partisan. When St. Thomas departed from the University in 1259 there was no trace of Averroism although the Commentator, Averroes, was known and utilized; upon his return in November 1269, the situation was completely different. The origin of Averroism lies somewhere between these two dates. Opposition to the use of Aristotle existed, but this does not imply the existence of Averroism.[5] Apparently the first positive date is 1267. In two great series of conferences upon the Decalogue given in March and April 1267, St. Bonaventure condemned and denounced the essential errors of Latin Averroism. Since no error in its initial stage is so influential that widespread condemnation of it is necessary, we can safely assume that Averroism existed some time prior to this date.

By 1269 the situation at the University of Paris had degenerated to such a state that the Master General of the Dominicans deemed it necessary to send St. Thomas back to Paris for a second regency. Sometime in 1270 St. Thomas' opusulum *De unitate intellectus contra Averroistas Parisienses* appeared. The first condemnation of Averroism was published on December 10 of the same year. Prefaced to the enumeration of the thirteen propositions was a sentence of excommunication upon all who continued to teach the errors. The numerical unity of the human intellect stands first in the decree.

Siger successfully avoided the application of the condemnation to himself. Since the Pope had reserved to himself the right to excommunicate students of the University, it is probable that Siger appealed the sentence imposed upon him by Etienne Tempier, the bishop of Paris.[6] December 1271 finds Siger the leader of a group of masters and students who are to create a schism in the faculty of arts during the next three years. A quarrel over the legality of the election of Alberic of Rheims as Rector of the University provides a pretext for the split. In the Christmas election of 1271, Alberic was elected rector by a majority vote, but a dis-

[5]CUP I, p. 427, n. 384.
[6]*Ibid.*, p. 422, n. 383.

senting minority charged him with being stupid and unworthy of the office. The minority vote elected Siger. Alberic's supporters invoked the proviso of 1266, but it served no useful purpose. Siger's faction was found guilty; however, opposition to Alberic's election continued. In the election of March 1272, the minority faction was not convoked, and Alberic was again elected. The minority in the meantime constituted themselves as an independent group and elected their own officials. At length the state of affairs was in such a sorry condition that there arose a mutual desire for reconciliation. Simon de Brie, now papal legate, rendered his decision on May 7, 1275.[7]

Although the pretext for the troubles was provided by Alberic's election, the real cause of the schism was doctrinal. A sign of this is seen in the division of the faculty of arts. The division was not along national lines as in 1266. Instead, two unequal parties were recruited from the four nations. Siger's group is the smaller of the two. Even more convincing than this, however, is the statute of the faculty of arts dated April 1, 1272.[8] It is directed against those members of the faculty who determine theological questions or who, in questions appertaining both to philosophy and the Faith, resolve the questions in a manner destructive of the Faith. This last is the characteristic mark of the Latin Averroists.

Simon de Brie reconciled the opposing factions without resorting to a doctrinal condemnation. Consequently, Siger and those who followed his lead continued to promulgate their errors. In view of the manner in which Averroism was expounded, its spread was most pernicious. Siger asserted that natural reason is capable of knowing the natural order. In those cases where his teaching opposed the Faith, he acknowledged that the truth in these matters was held by the Faith. Siger, having made his submission to the truth of Faith, continued to teach his errors asserting that his conclusions were the only ones possible to human reason. Furthermore, Siger never says that his doctrines are untrue, but he seems to have implicitly recognized that such was the case.[9] Because these errors were taught to boys unable to answer them, St. Thomas vehemently concluded his tract against the Averroists with the words: "Si quis autem

[7] *Ibid.*, p. 538, n. 468.

[8] *Ibid.*, p. 499, n. 441.

[9] "Circa septimum prius propositorum, videlicet utrum anima intellectiva multiplicetur multiplicatione corporum humanorum, diligenter considerandum est, quantum pertinet ad philosophum, et ut ratione humana et experientia comprehendi potest, quaerendo intentionem philosophorum, in hoc magis quam veritatem, cum philosophice procedamus." (Siger of Brabant, "Quaestiones de anima intellectiva," ed. by P. Mandonnet, *Siger de Brabant et l'Averroïsme latin au XIIIe siecle*, 2nd ed., Les Philosophes Belges, VIII (Louvain, 1911) vol. 2., p. 164.)

gloriabundus de falsi nominis scientia velit contra haec quae scripsimus aliquid dicere, non loquatur in angulis, neque coram pueris qui nesciunt de tam arduis judicare; sed contra hoc scriptum rescribat si audet; et invenient non solum me, qui aliorum sum minimus, sed multos alios veritatis zelatores, per quos ejus errori resistetur, vel ignorantiae consuletur."[10]

By 1276 the opposition to the Averroists was so strong that circumspection was deemed opportune. The Averroists had been lecturing in private for some time, when by a decree of the University dated Sept. 2, 1276 even this covering was denied them. Then on November 23, 1276, Simon de Valle, the inquisitor of France, summoned Siger and two other masters, Goswin of La Chapelle and Bernard of Nivelles, to appear before his tribunal. Grounds for the indictment are stated thus, "de crimine haeresis probabiliter et vehementer suspectos." The day appointed for their appearance was Sunday, January 18, 1277.[11] It is probable that they did not appear since on March 7, 1277, Etienne Tempier acting apparently upon a letter of Pope John XXI dated at Viterbo, January 18, 1277, published a second condemnation of Latin Averroism. Two hundred and nineteen propositions are listed. This condemnation marks the end of the greatest period of medieval speculative thought. ". . . the general atmosphere of the schools became different. Instead of carrying on its effort to conquer philosophy by renovating it, Scholasticism acted on the defensive. At that very moment its golden age came to end."[12] Besides Averroistic doctrines, legitimate speculative conclusions also found their place in the document. Theories indifferent to religion but in conflict with the traditional Augustinianism were included.[13] Siger and St. Thomas both accepted Aristotle, and those who opposed Aristotle made a serious attempt to implicate St. Thomas in the condemnation.

Siger's last years are veiled in mystery. John of Peckam indicates in a letter dated November 10, 1284 that Siger is already dead.[14] From another source we find that Siger had been stabbed to death by a mad

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[10]St. Thomas Aquinas, "De unitate intellectus," *Opuscula omnia,* ed. by J. Perrier, O.P., (Paris, 1949) Vol. 1, p. 120.

[11]A. Dondaine, O.P., *op. cit.,* p. 192.

[12]E. Gilson, *History of Christian Philosophy in the Middle Ages,* 2nd ed., (New York, 1955) p. 408.

[13]CUP I, pp. 543-555, n. 473. Apropos of this the following three propositions are cited: 81. Quod, quia intelligentiae non habent materiam Deus non posset facere plures eiusdem speciei. 96. Quod Deus non potest multiplicare individua sub una specie sine materia. 191. Quod formae non recipiunt divisionem, nisi per materiam.— Error, nisi intelligatur de formis eductis de potentia materiae.

[14]"Nec eam (opinionem) credimus a religiosis personis, sed saecularibus quibusdam duxisse originem, cuius duo praecipui defensores vel forsitan inventores miserabiliter dicuntur conclusisse dies suos in partibus transalpinis, cum tamen non essent de illis partibus oriundi." As quoted in P. Mandonnet, *op. cit.,* Vol. I, p. 258.

cleric.[15] How did Siger get to the Roman Curia, and what was his status there? These are unanswered, perhaps unanswerable questions. But it is certain that his death took place at Orvieto where Martin IV, the former papal legate Simon de Brie, established the Curia from 1281 to 1285.

THE EXTANT WORKS OF SIGER OF BRABANT

The most perplexing problem which has arisen with regard to Siger of Brabant is the one posed by a Munich manuscript, *Cod. lat.* 9559. There is no doubt about the fact that Siger was an Averroist, but it is not certain that he remained one. Certain works exist which, if they are his, indicate that the Parisian master, at first an ardent Averroist, at length came to accept the true interpretation of Aristotle expounded by St. Thomas. That he could have done so is not entirely unbelievable. Averroes himself was somewhat hesitant in outlining his solution to the problem presented by the spirituality of the intellect.[16] Furthermore, Siger certainly recognized the worth of his opponents, St. Albert and St. Thomas, although he believed them to be mistaken.[17]

Siger's works are here divided into two groups: the first contains those which have been edited; following these are the known unpublished works. Numerals preceded by an asterisk designate the disputed works found in the Munich manuscript. The place of publication is noted after the title.

Published works:

1. *Quaestiones Logicales.* Ed. P. Mandonnet, *Siger de Brabant et l'Averroïsme latin au XIIIe siècle,* 2nd ed. (Les Philosophes Belges, VIII, Louvain 1911), vol. II, pp. 55-61. This contains

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[15] "Hujus tempore floruit Albertus, de ordine Predicatorum, doctrina et scientia mirabilis, qui magistrum Sygerum in scriptis suis multum redarguit. Qui Sygerus, natione Brabantinus, eo quod quasdam opiniones contra fidem tenuerat, Parisius subsistere non valens, Romanam Curiam adiit ibique post parvum tempus a clerico suo quasi dementi perfossus periit." *Martini continuatio Brabantina, Mon. Ger. Hist. Script.,* Vol. XXIV, p. 263. As quoted by P. Mandonnet, *Ibid.,* p. 259, footnote 3.

[16] "His itaque sic se habentibus, dignum putavi scribere de hoc id, quod in mentem meam venit, meumque iudicium. Et. si id, quod ego de hoc negocio sentio, non fuerit perfectum et integrum, erit saltem initium perfectionis, atque complementi. Quare rogo atque obsecro fratres meos, qui haec mea perspexerint scripta, ut scribant et ipsi opiniones suae. Fortasse enim sic veritas huius negocii reperitur, si huiusque nondum fuit reperta." Averroes, *In III de Anima,* comm. 5, fol. 163 vb. As quoted by B. Zedler, "Averroes on the Possible Intellect," *Proceedings of The American Catholic Philosophical Association,* XXV (Washington, 1951) p. 174, footnote 54.

[17] "Dicunt praecipui viri in philosophia Albertus et Thomas. . . . Isti viri deficiunt ab intentione Philosophi, nec intentum determinant." Mandonnet, *Siger of Brabant, ed.* cit., II, p. 152, *passim.*

only the first question: "Utrum terminus communis significet universaliter conceptum mentis sicut quidam volunt."

2. *Quaestio utrum haec sit vera: Homo est animal nullo homine existente. Ibid.*, II, pp. 65-70.
3. *Impossibilia. Ibid.*, II, pp. 73-94; also C. Baeumker, "Die 'Impossibilia' des Siger von Brabant. Eine philosophische Streitschrift aus dem XIII Jahrhundert," BGPMA, II, 6 (1898), pp. 1-32.
4. *Quaestiones Naturales.* Ed. Mandonnet, *op. cit.*, II, pp. 97-107
5. *Quaestiones Naturales* (of Lisbon). Ed. by F. Stegmüller, "Neugefundene Quaestionen des Siger von Brabant," *Recherches de Théol. anc. et méd.*, III (1931), 177-182.
6. *Tractatus de necessitate et contingentia causarum.* Ed. Mandonnet,*op. cit.*, II, pp. 111-128; critically ed. by J. J. Duin, *La Doctrine de la Providence dans les écrits de Siger de Brabant,* (Louvain 1954), pp. 14-50.
7. *De aeternitate mundi.* Ed. Mandonnet, *op. cit.*, II, pp. 131-142.
8. *Quaestiones de anima intellectiva.* Ed Mandonnet, *ibid.*, II, pp. 145-171.

*9. *Quaestiones in libros I-V et VIII Physicorum.* Ed. P. Delhaye, *Siger de Brabant, Questions sur la Physique d'Aristote* (Les Philosophes Belges, XV, Louvain 1941). Cf. A. Maier, "Nouvelles Questions de Siger de Brabant sur la Physique d'Aristote," *Revue philosophique de Louvain,* XLIV (1948), 463-480.

*10. *Quaestiones in I-III De anima.* Ed. F. Van Steenberghen, *Siger de Brabant d'après ses oeuvres inédites* Les Philosophes Belges, XIII, Louvain 1948), I, pp. 21-160.

11. *Quaestiones in libros II-V Metaphysicae.* Ed. C. A. Graiff, *Siger de Brabant, Questions sur la Métaphysique,* (Philosophes Médiévaux, I, Louvain 1948). These questions are found in the Munich manuscript, but they are explicitly attributed to Siger.
12. *Questiones Morales.* Ed. F. Stegmüller, *op. cit.*, pp. 172-177.

Known unpublished works:

*1. *Quaestiones in librum de somno et vigilia.*
*2. *Quaestiones in libros I-II et IV meteororum.*
*3. *Quaestiones in librum de juventute et senectute.*
*4. *Quaestiones in librum de generatione et corruptione.*
5. *Quaestiones in librum III de anima.*

6. *Compendium libri de generatione et corruptione.*
7. *Sophisma: Omnis homo de necessitate est animal.*

Two other works now apparently lost are also attributed to Siger. In *De recuperatione Terrae Sanctae* Peter Dubois, a pupil of Siger, ascribes a commentary on Aristotle's Politics to his master. Finally, an unknown *Rescriptum de universalibus* is mentioned by Siger in his *Questiones logicales.*

CRITICISM OF AN AVERROIST ERROR

Of the four doctrinal positions which characterized Latin Averroism, the two most important were the affirmation of the unicity of the intellect and the eternity of the world. This section is not an exhaustive exploration of either of these tenets. It intends rather to discuss the pivotal question of the *Quaestiones de anima intellectiva.* Three of the propositions condemned in 1270 were concerned with the intellect; the first, "Quod intellectus omnium hominum est unus et idem numero"; the second, "Quod ista est falsa vel impropria: Homo intelligit"; and the seventh, "Quod anima quae est forma hominis secundum quod homo corrumpitur corrupto corpore."[18] The commonly accepted chronology of Siger's works places his *Quaestiones de anima intellectiva* after St. Thomas' *De unitate intellectus contra Averroistas.* This implies that the *Quaestiones* were written after 1270. The third question of Siger's work, "How is the intellective soul the perfection and form of the body?" lays the foundation for everything that follows. Here Siger explains how "man understands" must be understood. He then proceeds to teach, among other things, that the intellective soul has existed eternally (question V), that it is separated from the body (question VI), and that it is one for all men (question VII).

Siger teaches that the intellective soul is united to the body in its operation since both the body and the images of the imagination are necessary for the act of understanding. Thus the body and soul correspond in the work of intellection. For Siger, the intellect depends upon the body and the imagination, but it does not depend upon them as upon a subject which is necessary for its existence. Instead, the relationship is one of dependence as upon a formal object. In other words, the intellective soul depends upon the body to provide its proper object. It is related to the body after the manner in which the senses are related

[18]CUP I, pp. 486-87.

to the sensibles. Understanding is predicated of man because in the act of understanding the intellect is operating within the body. That the intellect must operate in this wise flows from the very nature of the intellect.

Siger says that the individual understands because the operations of internal agents, either accompanied by or lacking corporeal change, are attributed to the composite and to that in which these agents operate. This attribution is made precisely because the agent is intrinsic. Employing a parallel between the operation of the sense organs, Siger shows how man understands. A man is said to see although the power of vision only operates within the eye. Sight is not attributed to the man unless his eye, containing the power of vision, has a relationship to the other parts of the man's body. So also, understanding is attributed to a man even though intellection is found only in the intellect and not within the body. The crux of the problem has just been stated since Siger believed that the union of the eye to the other parts of the body differed from the mode in which the intellective soul is united to the whole. Sight is related to the parts of the body in forming one subsistent supposite, but the intellective soul is related to the body as a power to its object.

St. Thomas was to take a stand exactly opposite to Siger's. Instead of placing the intellect separate from the body in being but united to the body in the intellective act, St. Thomas taught that the soul, the substantial form of the body, had a potency, the intellect, completely distinct from the body. Siger's position is untenable, but the reason which leads him to adopt it is the same one which led St. Thomas to the truth. A sketch of St. Thomas' thought on this subject and criticism of Siger's position will help to give some understanding of the teachings of Latin Averroism.

In the third book of the *De anima* Aristotle demonstrates the immateriality of the intellect.[19] Because the possible intellect can receive all the species or forms of sensible things by reason of the fact that it is in potentiality to them, it must be devoid of them. If the possible intellect possessed in itself the nature of sensible things, intellection would not be universal. What the intellect is naturally would impede the knowledge of anything else. Upon this truth Siger, following Averroes, constructed another argument. If the possible intellect is united to the body

[19]Aristotle, *De anima*, III. 429a10 to 429b5, *The Basic Works of Aristotle*, ed. by R. McKeon, (New York, 1941) pp. 589-90.

as its form, it will manifest something of the nature of which it is a form. Thus the soul is not the form of the body. How then can understanding be the action of this particular man? The immediate difficulty of the Averroistic argument is presented in the fact that all men are conscious that the act of understanding is their own.

Aristotle defines the soul as the act of a natural organic body which has life in potency. Every natural substance is essentially composed of prime matter and substantial form. Thus every living body is so composed. This means that the animate body has a twofold substantial principle, one placing it among corporeal being, the other animating it. This latter principle is the soul. It is the first act of the matter and from it the living being receives its nature as living; because of the soul, as form, the body is a body, is organic, and has life potentially. The vital operations of a living body are performed through its organs. These, the agents of the vital operations, are anterior to the operation, but they are posterior to first act since they take their being from it. This is why Aristotle added "which has life in potency" to the definition of the soul. This is said in relation to second act which is operation.

Potentiality to perform a given operation does not exclude the soul as substantial form. Such potentiality presupposes a soul. In its essence the soul is the first act of the corporeal body; it gives being to the animate thing. If the essence of the soul is the immediate principle of operation, whatever has a soul would manifest its operation as continuously actual. For example, the eye would always see and the ear would always hear. Thus, for the soul to be in potentiality to another act cannot belong to the essence of the soul; potentiality here belongs to the soul as a power. The soul as form or substantial act is the subject of the power. Because the vital operations are not always actual, the soul, as the subject of the power, has a further relationship to second act. Since nothing is in potentiality to another by reason of act as act, it follows that the essence of the soul is not the powers of the soul.

Since the soul is united to the body as its form, it must necessarily be in the whole body and in each part of it. Substantial form gives being and perfection not only to the whole body, but to all the parts composing the body. Because the soul lacks quantitative parts, it can be in each part of the body as the act giving being to that corporeal part, but the soul is not present in each part of the body with respect to all its powers. With regard to the power of sight the soul is present in the eye, and with

regard to hearing in the ear. Thus the soul is present in a similar manner by its different powers in all the other parts of the body.

No contradiction exists in the fact that the soul is united to the body while simultaneously one of its operations is separated from matter. The intellective power exceeds the entire capacity of the body since the intellect understands the essences of all material things. But the intellect does more than just operate within the body. The intellect does not operate by means of a bodily organ; neither does it exist in matter, for if it did, its knowledge of all bodies would be individual and particularized. Human souls, therefore, are distinctly different from the sensitive and vegetative souls. The mind has essentially an operation in which the body does not share. Now nothing operates or acts but what is actual, and as it operates so it is. It follows, then, that the human soul which by its operation we call "the mind" must be something incorporeal and subsistent.

Life appears through the various operations in different degrees of living things, and that whereby anything acts is the form of the thing to which further operations are attributed. This must be so because nothing acts except insofar as it is in act. Thus a thing operates by that which makes it to be what it is; following upon this, it is apparent that as a thing acts so it is. So in vegetative life the primary principle of operation is the vegetative soul; in animal life it is the sensitive soul, the principle of sensation and locomotion. The same may be said in regard to human understanding; the principle by which primarily we understand is the form of the body. Therefore man is conscious that the act of understanding is his act; has to be, for the soul is the principle that makes this individual man actual.

It is obvious from what has been said of St. Thomas' teaching that a substance can be united to matter and yet have a potency separate from matter. The human soul is a particular type of form since, besides giving being to the body, it is subsistent in itself. Because of its perfection, the soul is neither entirely immersed in matter, nor entirely embraced by matter. The intellective power is not a power of some corporeal agent, nor is intellection performed by corporeal organs. Although essentially the form of the body, nothing prevents some power of the soul from not being the act of the body. St. Thomas remarks that it is most correct to say that man understands through the soul.[20] When Siger links the soul to the body he does not sufficiently explain how it can be said that one

[20]St. Thomas Aquinas, *Summa Theologiae*, I, q. 75, a. 2 ad 2.

thing operates. We do not say that color sees, but by the eye man sees the proper object, color. If we were to follow Siger's explanation of the process this would be the final solution. Furthermore, if the intellect is placed separate from the body, although it operates within the body, then the action is not truly intrinsic. Since the intellect is to the body as a motor to the thing moved, understanding cannot be attributed to the man by reason of he fact that he is moved by his intellect.

CONCLUSION

Latin Averroism is important for three reasons. Because of it, the highest level that speculative thought has ever attained in the West was brought to a close. Secondly, Siger's outspoken partisanship of Averroism was one of the principal causes inciting St. Thomas to write his commentaries upon Aristotle. Lastly, Latin Averroism shows, by the very fact that it was an error, how great an effort was required to assimilate the new learning into the culture of Europe. Siger marks a moment in the history of the thought of western Europe; but in the last analysis, the attempt to crush the error failed. It is true that Siger was silenced and that Averroism ceased to be a force at Paris, but the doctrine continued to linger on, particularly in Italy where it exhibited a sporadic influence.

Brendan Kelly, O.P.

ST. THOMAS AND THE PARADOXES OF ZENO

Movement is So Commonplace we hardly ever give it a thought. Yet when we try to analyze the nature of movement, the very reality of motion tends to become obscure. Do things really move or is it our imagination? Is motion a reality or are our senses betraying us?

Zeno, the disciple of Parmenides of Elea, tried to prove that motion, paradoxically enough, is impossible. Whether or not Zeno really believed in the impossibility of motion is a question that is still being disputed. Nevertheless, his four famous paradoxes have proved a stumbling block for many, and they have occupied philosophers down to the present day.

St. Thomas Aquinas, following Aristotle, sought to expose the basic fallacy in Zeno's reasoning. It will be the purpose of this paper to present the Aristotelian solution of the paradoxes as understood by St. Thomas. An understanding of the solution, however, presupposes that we have a perfectly clear grasp of certain fundamental concepts relative to motion itself, namely potency and act, continuity and time. Hence we shall clarify these notions briefly before considering the paradoxes of Zeno.

ACT AND POTENCY

The concept of act and potency is one of Aristotle's major contributions to philosophy. Many problems of his predecessors had to remain unsolved until he came on the scene and presented his solution through the concept of act and potency. The dilemma of Parmenides is the most striking. Parmenides held that "what is is, and what is not does not exist." It follows from this that all reality is one and indivisible and that

all motion is impossible. It was not until the concept of act and potency was brought forth by Aristotle that this problem could be solved.

The word "potency" means to be possible, while the word "act" means to be determinate. The state of potency is a reality between non-existence and actual or determinate existence. Thus, the statue exists potentially in the marble, but it actually exists when it has received its form from the chisel of the artist. However, to be in the state of simple potency demands that the thing be but one step away from receiving the new form.

> A thing is said to be in potency to something *simpliciter* when it can be immediately reduced into act by a single agency. Just as we do not say that a statue can be made from earth, but rather from copper; though the copper is made from earth.[1]

Potency is that which, if it is placed in act, nothing impossible will follow.[2] Thus a man has the capacity to sit, i.e., he has the potentiality of sitting and there follows no impossibility when he actually sits. What St. Thomas points out here is that all things are not pure potency because all things are not capable of receiving all forms. Thus when he says that no impossibility is involved when a thing is reduced from potency to act, he is merely saying that all things have a potency to other forms, but these other forms are limited. This being the case, an acorn does not have the potency to become an elm tree, but it does have the potency to become an oak tree, and this would involve no impossibility or contradiction.

St. Thomas goes on to say that a thing can be in potency in two ways. It can be in potency so that it is able to be reduced into act so as to be all at once, as a piece of bronze that receives the form of a statue. In this case the potency which the bronze had to become a statue is fully and completely actualized. Nothing of its former potency to become this kind of statue remains. It no longer has a potency to become this kind of statue because it is that statue actually and what is cannot come to be. However, a thing is in potency in a second way if it is not able to be actualized all at once but successively, as time. Things which are in potency in this second way are said to be infinite both in potency and in act, for everything of this sort is in potency to one part and in act in regard to the other.[3]

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[1]St. Thomas, *Super Libros Sent.* (ed. Mandonnet and Moos, Paris: Lethielleux, 1929-47), II, dist., 19, q. 1, sol.

[2]St. Thomas, *In Metaph.* (ed. R. Cathala, Marietti: Turin, 1925), IX lect. 3, n. 1804.

[3]St. Thomas, *In Phys.* (Turin: Marietti, 1954), III, lect. 10, n. 4.

Act, on the other hand, demands existence, for St. Thomas says:

> . . . for this reason motion is not attributed to non-existents, even though certain other things can be predicated of non-existents. For we may call non-beings intelligible or imaginable, or even desirable, but we do not say they are moved. Because, since motion implies being in act, it would follow that non-beings would be in act, and this is evidently false. Even though certain non-beings may be in potency, they are not thereby said to be, because they are not in act.[4]

In this way St. Thomas makes clear that the term "act" is used to oppose "potency" because motion signifies being, and motion is attributed only to beings having actual existence. It is this concept of "existence or being" that St. Thomas incorporates in his use of the term "act." Act, however, is twofold. We speak of first act in reference to a thing's form and integrity, and second act in reference to its operation.[5]

Before concluding our brief discussion of potency and act we must ascertain whether anything can be pure act or pure potency and whether either state can be called infinite. St. Thomas proves that only God is pure act, for God, being the first reality, must be pure act since a being in potency cannot reduce itself to act but presupposes a being in act. Material things cannot be pure act since matter of itself bespeaks potentiality.[6] But what of potency? Is there anything that admits of being pure potency? St. Thomas says that only prime matter can be called pure potency.[7] This is so because prime matter is capable of receiving any form whatsoever. Thus we can say that prime matter is infinite in the sense that there is no limit as to its posisble forms. We cannot say that material things are pure potency because by material things we mean those things which have actual existence, and in order to so exist they must have a definite form. This form places limits on its potentiality.

Thus, for our purposes here we will concern ourselves with material things which admit of a degree of potentiality; that is, they are mixed. By this I mean that as a statue exists in *rerum natura* it no longer has the potentiality of becoming a statue because it already is a statue in act, but it does have potentialities to other forms. Thus, only God is pure act; only prime matter is pure potency; all material things are mixed.

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[4] *In Metaph.*, IX, lect. 3, n. 1806.

[5] St. Thomas, *Sum. Theol.* (ed. Leonina, *Omnia Opera*, vol. IV, Rome, 1889), I, q. 48, a. 5.

[6] *Ibid.*, I, q. 3, a. 1; also cf. *Sum. Gent.*, I, c. 16.

[7] *In Phys.*, I, lect. 14, n. 8.

THE INFINITE AND THE CONTINUUM

In discusing the infinite, St. Thomas, along with Aristotle, rejects the definition of the ancients who said that the infinite is that outside of which there is nothing.[8] His reason for rejecting this definition is because the ancients held that the infinite pertained to the whole. St. Thomas, however, says that the infinite cannot be attributed to a thing which is in act with all of its parts, i.e., *in totum*.[9] Having rejected this definition he returns to Aristotle's definition which is: the infinite is that outside of which there is always something.[10] With this definition in mind he applies the infinite to the continuum:

> . . . infinite occurs in the definition of continuum because the infinity which is found in numerical addition results from that infinity arising from the division of the continuum. And he shows that infinity occurs in the definition of the continuum since those who define the continuum very often use the word infinite, as when they say that the continuum is that which is infinitely divisible. And frequently they say that there is another definition of the continuum which is found in *The Categories*, namely, the continuum is that whose parts are joined at one common term.[11]

St. Thomas sanctions both of these definitions, namely, "the continuum is that whose parts are joined to one common term,"[12] and that it is that which is infinitely divisible.[13] Both of these definitions will be important for a clear understanding of St. Thomas' solutions to the paradoxes.

Having St. Thomas' two definitions in mind, we must now look into the nature of the continuum and discuss how it is to be divided. All continua, says St. Thomas, fall into two classes: the flowing continuum such as time and motion, and the permanent continuum such as magnitude.[14] He goes on to say that every continuum, either flowing or permanent, is composed of parts joined by indivisibles some of which are present only potentially. These parts are not indivisibles nor can they be divided into indivisibles. They can, however, be divided into divisibles and this *ad infinitum*.[15] St. Thomas proves at length that no continuum can be composed solely of indivisibles, neither through the manner of continuation nor through contact:

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[8]*Ibid.*, III, lect. 11, n. 2.
[9]*Ibid.*, n. 4.
[10]Aristotle, *The Basic Works of Aristotle*, Oxford translation, (ed. Richard McKeon, New York: Random House, 1941), *Physics* III, c.6, 207a8-10.
[11]*In Phys.*, III, lect. 1, n. 3.
[12]*Ibid.*, also, *Sum. Cont. Gent.*, I, 20; *Sum. Theol.*, I, q 7, a. 3 ad 3.
[13]*Ibid.*
[14]*Ibid.*, VIII, lect. 2, no. 13.
[15]*Ibid.*, VI, lect. 1, n. 2.

> A unity composed of whatever parts, either by way of continuation or by way of contact, has to have extremities which are identical, or which are together. But the extremities of points cannot be identical because "extremity" implies some other part. However in an indivisible there cannot be one thing which is an extremity and something else which is another part. Likewise it cannot be said that the extremities are together. For nothing can be the extremity of an indivisible thing, because there would always be the extremity and that of which it is the extremity. But there could not be such distinction in an indivisible thing. Therefore it remains that a line cannot be composed of points, neither by way of continuation, nor by way of contact.[16]

He adds that a continuum cannot be composed of points (indivisibles) by way of contact because, being indivisibles, if they touched at all they would be joined *in totum* since they do not have parts outside of parts.[17]

Thus every continuum has actual parts continuous one to the other which are joined by the indivisibles. The indivisibles form the terms of the continuum; however, there are indivisibles within the continuum itself.[18] These indivisibles are there in potency only.[19] This concept of indivisibles in potency forms the basis for our later consideration of Zeno's paradoxes. These indivisibles in potency become actual either by a mental act of designation or by breaking the continuum, which is what happens when a moving object stops in its path and then resumes its motion.[20] If, for example, we divide a line in half, then the points which were present only potentially become actual and form the term of the first segment and the beginning of the second.

MOTION

In his quest for a definition of motion St. Thomas mentions that some of the early philosophers defined motion as "the exit from potency into act, but not suddenly."[21] He points out that this definition is unsatisfactory because the "exit" of which they speak is a species of motion and cannot be used to define motion. Secondly, they involve time when they say "not suddenly." Motion, however, cannot be defined in terms of time, but rather time is defined in terms of motion.[22]

We cannot say that motion is either fully in potency or fully in act. Something which is fully in potency will not move since motion demands

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[16]*Ibid.*, n. 3.
[17]*Ibid.*, n. 4.
[18]*Ibid.*, VIII, lect. 17, n. 7.
[19]*Ibid.*
[20]*Ibid.*
[21]. . . exitus de potentia in actum non subito. (*In Phys.*, III, lect. 2, n. 2.)
[22]*Ibid.*

existence, i.e., that the mobile at least be in first act. Motion, however, cannot be fully in act or again the mobile will not move because it will have already reached its term.[23] This idea can be made clearer by an example: taking three pans of water with a fire under two of them, and taking 100 degrees to signify complete act, it will easily be seen that the pan with no fire under it is not tending toward its perfection, namely, 100 degrees. It can be said to be fully in potency and showing no motion. The second pan has already reached its perfection of 100 degrees and is said to be in complete act. Thus, it also shows no motion. Only the third pan can be said to be in motion for it is on its way to 100 degrees but, as yet, it has not reached its perfection. The third pan is between full potency and complete act. Thus we say that motion occurs only when a thing has a potency to act and is, here and now, exhausting that potency.

St. Thomas, therefore, returning again to Aristotle, rightly defines motion as "the act of a thing existing in potency insofar as it is in potency."[24] St. Thomas clarifies this definition somewhat by adding later that motion is "the act of a possible subject insofar as it is possible."[25] As we have said above, motion is only attributed to a thing having existence, and this is the idea that St. Thomas is bringing out in his definition. Motion is an act, but it is also potency. He makes this clear when he says:

> That by which something which was previously in potency comes to be in act, is act; but a thing, heretofore in potency, passes into act while it is being moved. Therefore motion is act.[26]

and also:

> . . . because that which is in potency is also something in act. And while the same subject may be both in potency and in act, it is not potential and actual under the same aspect. For example, bronze is potentially a statue and it is actually bronze. Bronze as bronze is a different formality from bronze as a potential statue. Motion is not the act of the bronze as bronze, but it is the act of the bronze as it is in potency to be a statue. Otherwise it would follow that as long as bronze remained bronze it would be in motion, which is evidently false.[27]

Motion, therefore, stands between pure potency and complete act.[28]

Because it does not come about all at once, motion is said to be continuous[29] and successive.[30] That is to say that in motion there is the prior

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[23]*Ibid.*, III, lect. 2, n. 3.
[24]Aristotle, *op. cit.*, III, c. 1, 201a10.
[25]. . . est actus possibilis inquantum est possibilis. (*In Phys.*, III, lect. 2, n. 8.)
[26]*Ibid.*, n. 5.
[27]*Ibid.*, n. 7.
[28]*Ibid.*, V, lect. 1, n. 11.
[29]*Ibid.*, IV, lect. 18, n. 4.
[30]*Ibid.*, lect. 7, n. 4; also, 4 *Sent.* 17, q. 1, 5 ad 1.

and the posterior.[31] Because it is a continuum motion is infinitely divisible having within itself the indivisible which is called the "moment."[32] As we have said above, no continuum is composed of indivisibles, and so with motion.[33] Between the indivisibles of motion there are divisibles which may be divided *ad infinitum* as was shown in our earlier consideration of the continuum. With these few basic concepts of motion we must now pass on to consider time. St. Thomas tells us that we cannot adequately know either time or motion unless we consider them both at once for they are connected.[34]

TIME

In discussing time we are dealing with a most difficult subject. Aristotle[35] and St. Thomas[36] both admit the difficulty of explaining time. St. Augustine, too, has this to say of time, "What is time? If no one asks me, I know; if they wish me to explain it, I do not know."[37]

Time is not motion but it follows motion. It is the number of motion according to the prior and posterior.[38] Thus by numbering the prior and the posterior in motion we perceive time:

> Sometimes we perceive a single instant and we do not distinguish priority and posteriority in the motion. At other times we do distinguish priority and posteriority in the motion, considering the same instant as the term of that which preceded and the beginning of that which follows. It does not seem that time becomes, because it is not motion. But when we note priority and posteriority, and enumerate them, then we say there is time.[39]

It must be noted, however, that the prior and posterior do not refer to a temporal priority, but rather to the quantitative prior and posterior of the path through which the mobile passes.

Because time follows upon motion, it is said to be continuous.[40] The reason for this is that time is the number or measure of motion which is successive and continuous. We have in time, therefore, an indivisible

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[31]*Ibid.*, lect. 17, n. 7.
[32]*Ibid.*, VI, lect. 2, n. 5.
[33]For a full explanation of why motion, in particular, cannot be composed of indivisibles cf. *In Phys.*, VI, lect. 2, n. 5 and 6.
[34]*Ibid.*, IV, lect. 17, n. 2.
[35]Aristotle, *op. cit.*, IV, 217b29—218a8.
[36]*In Phys.*, IV, lect. 15, n. 2.
[37]St. Augustine, *Confessions*, translated by Sir Tobie Matthew, (ed. Dom Roger Hudleston, New York: Benziger Brothers, 1923), XI, c. 14.
[38]Aristotle, *op. cit.*, IV, c. 11, 220a24.
[39]*In Phys.*, IV, lect. 15, n. 2.
[40]*Ibid.*, lect. 18, n. 4.

which is the "now" or the instant.[41] Time, unlike other continua, has no parts in act except the "now,"[42] but the "now" cannot be called a part of time[43] just as the indivisible of motion cannot be called a part of motion, or the point a part of the line. The "now" is the term of time, but it is the number of all the mobiles that move in time.[44]

If, then, the "now" is the only thing that is in act in time, just what is time? We have shown that no continuum can be composed of indivisibles, but the indivisible is the only thing that is in act in time. We have also seen that St. Thomas defines the continuum as something that is infinitely divisible, but how can time be divisible when it only has the indivisible in act?

In order to answer these questions we must take notice of the fact that the "now" is not the same as the present. The present includes some of the past and some of the future. Thus when we say the present hour we include that part of the hour that has already past and also that part which is yet to come. The same can be said of the present minute or present second or the present subdivision of a second, however small it may be made.[45]

The "now" serves two functions; it terminates the past and opens the future.[46] We might compare the "now" to a point in a line which terminates one segment and begins another. The analogy, however, is a weak one for the point is immobile but the "now" is always flowing. The difficulty arises because we tend to think of the "now" as passing out of existence by flowing into the past. However, this not the case. The "now" does not go out of existence, but rather it is in continued existence and gives existence to the past *consumative* and to the future *inchoative.*

Thus time is infinitely divisible in virtue of the parts which the "now" renders existent. Time is not composed of many "nows" but rather it is composed of the past and the future which are joined by the "now."[47]

ZENO'S PARADOXES

Having briefly considered some of the basic factors pertinent to the paradoxes, we are now able to concentrate on St. Thomas' solutions. We

[41] *Ibid.*, VI, lect. 5, n. 4 and 5.
[42] *Ibid.*, III, lect. 13, n. 5.
[43] *Ibid.*, IV, lect. 15, n. 3.
[44] *Ibid.*, lect. 18, n. 11.
[45] *Ibid.*, VI, lect. 5, n. 2.
[46] *Ibid.*, IV, lect. 18, n. 9; lect. 21, n. 2.
[47] *Ibid.*, VI, lect. 1, n. 5.

shall deal at length with the first paradox because if we are able to see this solution clearly, the others will fall into place.

The Dichotomy

Through the first paradox Zeno tries to prove that all local motion is impossible. The reason he gives is this: if anything is moved through the whole of space, it is necessary that it first attain the medium. However, since the medium is divisible, it is necessary for it to attain the medium of that medium, and this *ad infinitum*. Thus, Zeno says, local motion is impossible because the magnitude is divisible *ad infinitum* and the infinite is not able to be traversed in finite time.[48]

The problem here concerns the nature of the continuum and its components. St. Thomas divides the solution into two parts: he first considers the infinite as found in time and magnitude; secondly, he considers the manner in which the infinite is traversed in the magnitude.

Zeno's error lies in the fact that he considers infinity in an absolute sense. St. Thomas, however, distinguishes between infinity in regard to divisibility and infinity in regard to extent. Considering the infinite divisibility of the continuum, St. Thomas says that this infinity stems from the indivisibles which are designated within the continuum. Thus it is possible to assign an infinity of points to a finite magnitude. Since this is so, the line is said to be infinitely divisible for there is no limit to the number of times it can be divided. However, the continuum can be infinite in another respect, namely, in extent. Infinity of extent is due to the indivisibles at the limit of every continuum. If these ultimate indivisibles are present then the continuum is finite. If one or both of these indivisibles are absent then the continuum is infinite. Thus we can conceive of an endless or infinite line and also of an infinite time.[49]

It is on Zeno's failure to distinguish the infinite that his paradox finds strength. Following St. Thomas, we see that, contrary to Zeno, if a runner sets out to traverse the distance from A to B, he will indeed move, and would, in a finite time, cover the finite distance from A to B. Motion is possible because the magnitude and time are infinite in divisibility but not in extent. Thus, the runner needs only to cover the finite magnitude and not the infinite divisibility of the magnitude. This solution, however, is only a solution *ad hominem*.[50]

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[48]Aristotle, *op. cit.*, VI, c. 2, 233a22-24.
[49]*In Phys.*, lect. 4, n. 1-4.
[50]*Ibid.*, n. 3.

In order to see clearly the true solution as given by St. Thomas we must investigate the manner in which the infinity of points are present in the magnitude and in time.

The fault lies in trying to number the infinite points in a line. If these points are numbered, the continuum is broken and the point thus designated becomes the end of one continuum and the beginning of another.[51] As long as the continuity of the line is left intact, however, there will be an infinity of points in potency.

> But in a continuum, while the continuity lasts, there are infinite points (*media*), not in act, but in potency. Because if someone were to actualize some part it would be through division, insofar as the point would be considered as the beginning of one half and the term of the other. Thus, it will not remain a continuum [as infinite], but it will be terminated, that is, the halves already in act will not be infinite, but there will be a limit in them. This is especially the case when one wishes to enumerate the halves, because then one would necessarily consider one point as though it were two, that is, as the term of one half and the beginning of the other. And I say this is the case when the whole continuum is not counted as a unit, but when two halves are designated in it. If the whole continuum were considered as a unit, then, as has been said, the dividing point would not be taken as an actual term and principle, but would be merely potential.[52]

This passage concerns the very crux of the problem. When Zeno says that motion is impossible because the mobile must traverse an infinity of points, he is conceiving this infinity as being actual, and yet he holds that the continuity is unbroken. This is false, as St. Thomas points out in the above passage. The mobile does not traverse an infinity of actual points but only potential points. These potential points are made actual in one of two ways: by a mental act of designation or, secondly, by the interrupted motion of the mobile. In this second case the mobile by stopping actualizes the point at which it stops and makes it to be the term of the previous motion and the beginning of the future motion.[53] The mobile, therefore, uses the points as being in act only when it uses them as both a principle and an end. In continuous motion the points remain in potency.

Having shown, contrary to Zeno, that the infinite points are there only in potency, St. Thomas answers the one remaining question: whether the infinite is traversed either in time or in the magnitude.

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[51] *Ibid.*, VIII, lect. 17, n. 7.
[52] *Ibid.*
[53] *Ibid.*, lect. 16, n. 6.

St. Thomas answers:

> . . . in a certain way it does, and in a certain way it does not. When the parts are actually infinite it is impossible to traverse them. But if they are potentially infinite it is possible. Thus, since the infinite parts are only potentially present in the continuum, it is possible to traverse the infinite. For that which moves continuously, traverses the infinite *per accidens*, that is, the potentially infinite. *Per se* it traverses a finite line, which potentially contains an infinity of parts. But the line itself, according to its being and its definition, is quite different from those infinite parts. For a line is not composed of points. Rather, points can be designated in a line insofar as it is divided.[54]

Thus St. Thomas agrees with Zeno that insofar as the points are in act the magnitude will never be traversed. However, the indivisibles of the continuum are not in act but in potency, and they are truly traversed *per accidens*. This first paradox, then, rests on the false premise that all parts of the continuum are in act. St. Thomas, having proved this to be false, destroys the validity of the paradox.

Achilles

This second paradox is basically the same as the first. Zeno here attempts to prove that if anything is moved, it follows that a slower runner, if given a head start, will never be caught by a swift runner. Thus, the tortoise will never by caught by Achilles because when Achilles begins to run the tortoise has already attained some distance. When Achilles reaches this point the tortoise will have progressed further and this *ad infinitum*. Zeno admits that the distance between the two will become smaller and smaller, but, because time, motion, and magnitude are infinitely divisible, Achilles will never catch the tortoise.

St. Thomas reduces the solution of this second paradox to the solution of the first since they both revolve upon the postulate that the runner will not reach a certain point. They differ only in this, that in the first the division is made according to halves, but in the second according to the proportionate distance between the two runners. The solution, however, is the same. St. Thomas adds that it is obvious that a finite magnitude is able to be traversed in a finite time, as was shown in the solution to the first paradox. If this is true, then it is also true that at some time Achilles will not only reach the tortoise, but he will pass him. St. Thomas' conclusion follows from this, that Achilles is moved a greater distance in less time than the tortoise through the same determined magnitude.[55]

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[54] *Ibid.*, lect. 17, n. 7.
[55] *Ibid.*, VI, lect. 11, n. 6.

The Arrow

The paradox of the arrow is based on the nature and composition of time. Zeno tries to prove that the arrow, which seems to move most swiftly, really does not move at all. He bases his paradox on the fact that everything which is in a place equal to itself either moves or rests. However, the arrow does not move and, therefore, it must rest in each "now" of time. But if the arrow does not move in any "now" or instant of time, it follows that it does not move in the whole of time.

In agreement with Zeno, St. Thomas says that it is impossible for anything to move in the "now" of time. He illustrates this by supposing that two mobiles are moved through the "now" at different speeds. The faster mobile, then, would cover a larger magnitude than the slower and from this it would follow that the faster mobile would be able to cover the same distance as the slower in less time than the slower. It is clearly seen that if these conditions are granted, then the "now" of time would be divisible, but this is false. In this St. Thomas proves that Zeno was correct in asserting that nothing is able to move in the "now" of time.

St. Thomas, however, rejects Zeno's assertion that the arrow therefore must rest in the "now." Nothing is able to move in the "now," says St. Thomas, but also nothing is able to rest in the "now." He proves this by reminding us that only those things which are capable of motion are said to rest. This is true because rest is a privation of motion, and privation is the absence of an attribute that is naturally owing to the subject. Because of this only mobiles are said to rest. We have already seen that nothing is able to move in the "now" of time and, therefore, nothing is able to rest in the "now."[56]

Thus Zeno is wrong in assuming that because it does not move in the "now," it must be at rest. St. Thomas says that it neither moves nor rests. He concludes his argument against Zeno by stating that in order for a thing to be moved in some time, it must be moved in some part of time. However, we have already seen that that the "now" is not a part of time. It is here that Zeno's paradox falters for Zeno conceived time as being composed of an infinite number of indivisibles, and this is false.[57] Thus Zeno's reasoning that because the arrow is not moved in the "now," it does not move through the whole of time, does not follow.

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[56]*Ibid.*, VI, lect. 5, n. 9.
[57]*Ibid.*, lect. 1, n. 5; also cf. pp. 33 and 34 above.

The Stadium

Zeno's purpose in this paradox is to show that of two equal times, one is equal to half of the other. Since this is impossible he concludes that motion is impossible. In proof of this conclusion Zeno places three ranks of soldiers of equal number in a stadium. One of these ranks remains stationary while the other two move at equal speed in opposite directions along side the stationary rank. Thus, he says, in the time it takes for one moving rank to pass all the soldiers of the other moving rank, it will pass only half of the soldiers in the stationary rank. For this reason he concludes that of two equal times, one is equal to half of the other.

St. Thomas is quick to seize upon Zeno's error. Given all the conditions set down by Zeno, St. Thomas says that he would be correct. However, Zeno has falsely assumed that the moving rank will traverse the contra-moving rank and the stationary rank in the same amount of time, but this is false.[58] When anything is moved along a resting magnitude there is only one motion, but when anything is moved along a magnitude which is moving in an opposite direction there are two motions. Thus, when two magnitudes are moving in opposite directions, the time needed for them to pass each other is diminished and is not equal to the time required for one moving magnitude to pass a stationary magnitude.[59]

These, then, are the solutions given by St. Thomas in refutation of Zeno's seemingly solid paradoxes. The Aristotelian-Thomistic doctrine on this subject is not universally accepted. It is not my intention to go into the various controversies in this paper. I wish only to point out some of the points on which St. Thomas' doctrine is questioned.

W. D. Ross, in discussing Aristotle's solution to the dichotomy, has this to say:

> I find it difficult to believe that there is any escape along this line. It surely cannot be maintained that a particle actualizes a point of space by coming to rest at it. It can come to rest only at a point that is there to be rested at. And when it does not rest, but moves continuously, the pre-existence of the points on its course is equally pre-supposed by its passage through them. Nor again can the process of counting be said to actualize that which it counts.[60]

Sir Thomas Heath speaking on the fourth paradox:

> Aristotle's criticism on this is that Zeno did not understand the difference between absolute and relative motion. This is, however,

[58] *Ibid.*, VI, lect. 11, n. 10.
[59] *Ibid.*, n. 9.
[60] W. D. Ross, *Aristotle's Physics*, (Clarendon Press, Oxford, 1936), p. 75.

> incredible, and another explanation must be found. The real explanation seems to be that Zeno's object was to prove that time is not made up of indivisibles or instants.[61]

It is possible to quote several other authors who find fault with the Aristotelian-Thomistic solutions. It will suffice for us merely to mention them: Bertrand Russell, K. T. Weierstrass, V. Brochard, and G. Noel.

From their arguments it seems clear to me that they have missed the points St. Thomas tried to convey. They seem especially to have missed the full significance of potency and act. Unless this concept is perfectly clear, and unless we can restrain ourselves from conceiving the potential as being just a little bit actual, we cannot hope to see the truth in St. Thomas' exposition.

Gerard Halloran, O.P.

[61]Sir Thomas Heath, *A History of Greek Mathematics*, (Clarendon Press, Oxford, 1921), vol. I, p. 282.

WILLIAM OF OCKHAM AND HIS DOCTRINE OF SUPPOSITION

The Thirteenth Century Saw the Climax of an intellectual culture in Europe which was unprecedented in the west, the *hochscholastik* period. It was marked by such events as the rise of the University of Paris, the reappearance of the complete works of Aristotle, and the masterful syntheses of Albert and Thomas Aquinas. Following the high-water mark of the thirteenth century comes a century important in its own right. It is in the fourteenth century that the seeds of a scholastic decay begin to take root. The period of criticism is about to follow the period of construction.

Of all the scholars who raised their voices in this new era, there were only a few whose objections echoed through every hall of the great institutions of the day, Paris, Oxford, and Bologna. Of these few, William of Ockham stands out as the one who most profoundly shook the scholastic structure. In logic, psychology, natural science, theology, and politics he left a new banner which was eagerly snatched up by the young, the talented, and the discontented. To William of Ockham goes the dubious honor of being called the father of Nominalism. He was a scholastic who initiated the *via moderna* which eventually diluted scholastic speculation to such an extent as to leave the Church and the old culture open to the vigorous thrusts of the reformers.

In order to clarify and outline the exact position played by William of Ockham in the history of human thought, it is the intention of this paper to treat of him, first of all in a brief manner, giving his life, his works,

and thereby the general trend of his intellectual positions. Secondly, in order to bring to a focus the strength and significance of this man, it would be good to consider in a more detailed way one of the more crucial points of his synthesis. This point, of course will be his logic, and specifically his treatment of the doctrine of supposition. In this way the reader will get an example of both the extent of his work and also of its content.

HIS LIFE

William of Ockham was born shortly before the beginning of the fourteenth century at Ockham, Surrey county, a short distance southwest of London. The exact date of his birth is not known. It can be placed, however, roughly between 1280 and 1290.[1] Almost nothing is known of his early history. He entered the Franciscans and presumably was ordained. He was an eager student and soon his talents were put to the test at the university at Oxford. The Franciscans were not strangers at Oxford for they had been established there for about a hundred years, since 1225.[2] If the regular procedure in his case was followed, William would have begun his study of Theology about 1310, continued with lectures on the *Sentences* of Peter Lombard from 1315 to 1317, and finally commented on the Bible from 1317 to 1319. After such a process he would have spent several years in preparation for the doctorate of theology. The years 1315-1320 can be assigned to such work.[3]

It is generally agreed that William of Ockham did not actually receive the honor of the doctorate. One of the strongest reasons for this opinion is his subsequent title of "Venerable Inceptor." The "Venerable" can be accounted for as an honor paid by his admirers; but the title "Inceptor" was generally used at that time to signify the bachelors at Oxford who had not yet gone on to the doctorate or the masterate as it was called. This fact does not imply that William of Ockham was not striving for the degree, but probably that he was successfully stifled in his attempt due to his doctrinal extravagances.[4] It seems that he never did achieve this goal. The title "Inceptor" therefore, does not accrue to him because he was the founder of Nominalism.

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[1]Frederick Copleston, *History of Philosophy* (Westminster, Md.: Newman, 1953), Vol. III, p. 43, footnote 1.

[2]R. M. Huber, *A Documented History of the Franciscan Order (1182-1517)* (Milwaukee: Nowiny, 1944), p. 813.

[3]Copleston, *op. cit.*, p. 43.

[4]M. DeWulf, *History of Mediaeval Philosophy* (translated by E. C. Messenger; London: Longmans, Green and Co., 1926), Vol. II, p. 176.

It is at this stage of his busy life that Ockham begins to meet with heavy opposition. During the years of preparation for the Master's title, Ockham had shown an intellectual independence which had frequently drawn the fire of more cautious and more orthodox thinkers. The most notable of these was John Luttrell, chancellor of the university from the years 1317 to 1322. Luttrell was so disturbed by the rashness of the young Franciscan that, when he had finished his office of chancellor, he travelled to Avignon, and in 1323 before the Pope he brought charges against the English bachelor by means of a list of fifty-six propositions taken from a version of Ockham's commentary on the *Sentences*. These propositions were to be examined and judged for error and even heresy. Ockham himself was then summoned to Avignon to render an account of his doctrines.

The papal commission for investigating the suspected errors was made up of six masters; three Dominicans, two Augustinians, and Lutterell himself.[5] The exact number of propositions was then reduced to fifty-one. The nature and the scope of these propositions are enlightening both as to the matter and as to the extent of Ockham's temerarious opinions. Topics covered in the document are both philosophical and theological. The emphasis on theological points, however, could be explained both by the source of the propositions and by the nature of the ecclesiastical commission. As to the individual propositions themselves, seven concerned grace, seven more our knowledge of God, six, the Trinity, five on the Eucharist, four on human cognition in general, four on sin, four more on the hatred of God and the refusal of beatitude, three each on the divine ideas, and the divine attributes, two on the potencies of man and the human soul, two more on corporeal substances, and finally one each on motion and on logic.

Although the commission did complete the report, there seems to have been no official condemnation by the Holy See of Ockham's doctrines at this time. The adjectives used by the examiners in criticizing the propositions would lead one to believe that a condemnation could have been made. Ockham's propositions were labeled "falsum, sophisticum, ridiculosum, temerarium, erroneum, hereticum."[6] If such were the judgments of the council, why was the condemnation process not formally completed? Several opinions have been advanced. One proposed that the influence

[5]A. Pelzer, "Les 51 articles de Guillaume Occam," *Revu l'Histoire Ecclésiastique*, VIII (1922), p. 241.
[6]*Ibid.*, p. 242.

of one of the six examiners might have been used in favor of Ockham to slow the political processes down. This examiner would probably have been Durandus of St. Pourcain. Doctrinally, Durandus was closer than the others to Ockham in his own thought,[7] and it appears to be true that he did not agree unanimously in all the decisions of his fellow examiners.[8] The other theory proposed is that Ockham fled Avignon before the condemnation could be effected.

This is the turning point in his personal career. At Oxford, Ockham had been at least recognized, if not respected by all. He had a number of devoted disciples who would continue in his footsteps there. His disputes still had retained the academic reserve proper to the scholastic politeness. But at Avignon he was put to the test. Intellectual pressure was brought to bear, heavy with the papal authority. Under this pressure the intellectual innovator made a decision which was to make him an outcast, a rebel, hunted by his own Franciscan brethren. On May 26, 1328, in the company of the recalcitrant minister general of the Order, Michael of Cesena, and with Bonagratia of Bergamo, Ockham secretly fled Avignon. Michael had been summoned there because of his violent opposition to John XXII on the question of poverty in the Franciscan Order. Both Michael and Ockham realized that excommunication might follow from their flight. The Pope on hearing of their departure acted forcefully. On May 28, he ordered the three fugitives captured; on June 1, their goods were to be seized; and finally on June 6, 1328, he excommunicated the trio.[9] They were given refuge at Pisa by the confirmed adversary of John, Louis of Bavaria. It was under his patronage that they received their safety. As long as that nobleman protected them, so long would they remain obstinate in their common protest, that John XXII was a heretic.

At Pisa, Ockham and the other refugees begin what is to be their political exile from the Franciscan Order and from the Church. In the next twenty years they will have an opportunity to express themselves in a new field, a field far removed from the scholarly atmosphere of Oxford. This begins the period of polemical writings, political diatribes mostly against the popes. Withdrawing to Munich in 1330, the exiled friars along with political theorists Marsilius of Padua and John of Jandum, remained under the protection of Louis, and there, continuing their discus-

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[7]Copleston, *op. cit.*, pp. 41-42.

[8]Of the six examiners who were on the commission, only five signed the concluding explicit complaint against article #40 of the list. Durandus' name was missing. *Cf.* Pelzer, *op. cit.*, p. 270.

[9]Huber, *op. cit.*, p. 237.

sions, they spurned all efforts to reconcile them with the Order or the Pope. As far as Ockham was concerned there were several problems which demanded attention. First of all he wrote vigorously against the temporal "tyranny" of the papacy. He defended the rights of the Holy Roman Emperor against the Pope. Another problem of interest concerned the Franciscan troubles and his friend, the now deposed minister general, Michael of Cesena. The dispute concerning the Pope's rights in interpreting the Franciscan rule concerning poverty had occasioned Michael's apostasy, and Ockham did not hesitate to defend his brother even to the point of proclaiming the numerous "heresies" maintained by Pope John XXII. In this regard Ockham appealed to his interpretation of the Ecumenical Council which he erroneously maintained was superior in authority to the Pope. This is just another example of the problem of papal authority which was to come to a climax in the Conciliar Movement of the early fifteenth century.

The patronage of Louis of Bavaria came to an abrupt halt at his sudden death on October 11, 1347. Of the three Franciscan fugitives, Ockham alone was still alive. Michael of Cesena had died on November 29, 1342; Bonagratia of Bergamo on June 19, 1340, both probably unreconciled.[10] At the loss of his protector, Ockham seems to have made at least a gesture toward reconciliation. This gesture was the deliverance of the seal of the Franciscan Order (retained by Michael in his exile) to the legitimate minister general, Farinier, who had assumed his office in 1348. Ockham himself died in Munich, probably of the black death, on April 10, 1349 or 1350. Conflicting reports come down to us concerning his last hours. Some claim that he died in peace with the Church, while other Franciscan chroniclers claim that he died a heretic. The issue remains too obscure for any certain pronouncements. However, P. Vigneaux in his article in the *Dictionnaire de théologie catholique* reasons that the weight of the lack of proof tells against Ockham's possible reconciliation. If the fugitive friar had been reconciled, his brethren, the Franciscan chroniclers, would be more unanimous witnesses to the fact.[11] As it is, they are divided.[12]

HIS WORKS

The life of William of Ockham as summarized so far merely covers the externals, the mere names, dates, and places connected with the life

[10] *Ibid.*, p. 244.
[11] P. Vigneaux, "Guillaume Occam," *Dictionnaire de théologie catholique*, Tome XI, part 1, col. 872.
[12] Huber, *op. cit.*, p. 244, text and footnote 65.

of the important figure. More significant would be his intellectual history, a history which would enlighten and inform the mere material structure as so far presented. In the case of Ockham this could be done by enumerating his writings, and also by placing them in the order in which Ockham lived them. This is a closer and more intimate history of the man himself. Such a listing has the advantages of combining the subjective development of Ockham's own thoughts with the objective certitude of the printed page.

One of the most important and also one of the earliest of Ockham's works was his commentary on the *Sentences* of Peter Lombard. It was the regular procedure for those desirous of the mastership to begin by commenting on the *Sentences.* Ockham himself prepared the *ordinatio* of the first book, while the other three books seem to have been *reportationes.* This would place the whole work between 1315 and 1320.[13] It was certainly finished by 1323 because Lutterell's objections are taken from this work.

His important *Summa Logicae*[14] was in process after 1323 for in it the author refers to Francis of Mayron as master, who became such in that year.[15] The *terminus ante quem* of the *Summa Logicae* is 1329 when Walter Burley imitated it with his *De puritate artis logicae.*[16] Ockham was too busy in 1328 to be working on such a treatise so Boehner dates the completion of the work between 1324 and 1327, placing Ockham at Avignon at the time.[17] The *Summa Logicae* is one of the most important sources of Ockham's doctrines especially his philosophical doctrines. It seems to have been a controversial work from the very beginning. One of his contemporaries at Oxford, Richard of Campsall, Master of Theology (b. approx. 1285—d. after 1326), attempted a minute refutation of his logical positions in the *Logica Campsale Anglici valde utilis et realis contra Ocham.*[18] This work, extant in one manuscript, is written in answer to Ockham's *Summa Logicae* and contains the author's reply to all the *pars prima* of Ockham's *Summa,* but breaks off at the foot of a page refuting the *pars secunda.* The work undertakes to provide a counter-demonstra-

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[13]Copleston, *op. cit.*, p. 44.

[14]Wm. Ockham, *Summa Logicae* (edited by P. Boehner; St. Bonaventure, N. Y.; Franciscan Institute, 1951), Vol. I (prima pars), 214 pp. All subsequent references to the text of the *Summa Logicae* will be to this edition.

[15]P. Boehner, in *Summa Logicae* cited above, Intrduction, p. xii.

[16]P. Boehner, *Medieval Logic* (Chicago: University of Chicago Press, 1952), p. 44.

[17]P. Boehner, in *Summa Logicae, loc. cit.*

[18]E. A. Synan, "Richard of Campsall, an English Theologian of the Fourteenth Century," *Medieval Studies,* Toronto, XIV (1952), p. 1, footnote 1.

tion for each stage of the Venerable Inceptor's argument and all this is done in the name of a realism of common natures.

Some hold, too, that Ockham's logical tenets played a major part in occasioning his summons to Avignon. They state that the origin of the trial, as stated above, seems to have been a denunciation of Ockham's teaching by the successor of Harclay as chancellor of the University of Oxford, John Lutterell. They say that this theologian attacked the doctrine of Ockham in a *libellus* where the new interpretations of universals, together with the correspondingly new interpretations of the logical *suppositio*, were severely criticized from the view of realism. This treatise was written about 1324.[19] In either of the above cases it is plain to see that Ockham was under attack for his innovations, and one of the major vehicles of these innovations was his *Summa Logicae.*

In earlier years, Ockham wrote other logical tracts and commentaries. These were:

Expositio in librum Porphyrii;
Expositio in librum Praedicamentorum;
Expositio in duos libros Elenchorum;
Expositio in duos libros Perihermenias.

His physical works were:

Quaestiones super libros Physicorum;
Expositio super octo libros Physicorum;
Summulae in libros Physicorum or *Philosophia naturalis.*

Theological tracts (other than the *Sentences*) were:

Quodlibeta VII;
Tractatus de Sacramento Altaris or *De corpore Christi;*
Tractatus de praedestinatione et de praescientia Dei et de futuris contingentibus.

His political works can all be dated after his flight from Avignon in 1328. They consist of polemical and defensive works treating of the power of the Pope, and of his authority in such matters as the Franciscan dispute. These works are:

Opus nonaginta dierum (at Munich, about 1332);
Compendium errorum Ioannis papae XXII (1335-1338);
An princeps pro suo succursu, scilicet guerrae, possit recipere bona ecclesiarum etiam invito papa (1338-1339);
Octo quaestiones de potestate papae (1339-1342);
Consultatio de causa matrimoniali;

[19] F. Hoffman, *Die erste Kritik des Ockhamismus durch den Oxforder Kanzler J. Lutterell,* Breslau, 1941, cited in E. Gilson, *History of Christian Philosophy in the Middle Ages* (New York: Random House, 1955), p. 783, footnote 4.

Dialogus inter magistrum et discipulum de imperatorum et pontificum potestate; This work consists of three parts, two of which are:
De potestate et iuribus romani imperii (1338);
De potestate papae et cleri.
Breviloquium de principatu tyrannico.[20]

Having given a summary of Ockham's life and works, it is now my intention to go a bit more profoundly into the doctrine of this founder of Nominalism. The precise point to be discussed is Ockham's position on the new logical doctrine of supposition.

OCKHAM AND SUPPOSITION

Why treat of the problem of supposition? There are several good reasons. Ockham made his influence felt in many fields, psychology, natural science, theology, and apologetics. But one cannot help but get the impression that the importance of this man stems not only from the basic conceptions or first principles by which he, along with many others disagreed with the realists of his day, but rather more from the relentless logical vigor which he displayed in pushing these principles to their valid conclusions. Under the surface of all his works we can see "Ockham's razor," the mental instrument, heedless of authority and tradition, paring away philosophical positions unallowable to his conceptualism. It is his mastery of the *ars artium et scientia scientiarum* which raises him from a mere dissenter to the status of an arch-enemy of the realists. So, as a logician, we touch upon a William of Ockham who is basic. We see the master with his tools; it is an outlook which gives us a glimpse of the view which he imposes on the rest of reality.

Secondly, by focusing our attention on one particular aspect of logic, the doctrine of supposition, we can see in a very simple case, the general position of the conceptualists or nominalists. In supposition, the realists and the nominalists take clear sides against each other. By seeing these sides we not only get a chance to understand the realist and the Ockhamist position, but we also see unfolding before our eyes the birth and development of one of the scholastic additions to the Aristotelian logical tradition, the treatises on the properties of terms, and supposition in particular, a tract which Ockham profoundly influenced.

Finally, the doctrine of supposition plays an important role in the thought of Ockham.

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[20]Copleston, *op. cit.*, p. 45.

> With Ockham at least this theory penetrated the entire field of Philosophy and Theology, and its presence is everywhere felt. He applies it with a rigor and consistency hitherto unknown to the discussion of the relations between faith and reason, and to an elucidation of philosophical and theological problems.[21]

So for these three reasons supposition is to be our key to the thought of Ockham.

What then, is supposition, and what are its origins? Supposition is the logical treatment of the meaning of terms as they are modified by the types of predicates joined to them. The term "man" has different suppositions when used in such examples as these: Man is a species, A man runs, "Man" is a monosyllable. How to explain these different usages constitutes what we shall call the problem of supposition.

The history of the doctrine is a story which includes the whole history of scholastic logic itself. The history of logic in the medieval scholastic period is a history of a tradition and of innovations. The tradition was the Aristotelian one, handed down through the dark ages in the work of Boethius. The tradition was referred to as the *logica antiqua.* This "ancient logic" itself was composed of two streams. One stream, the *logica vetus,* was comprised of the consistent tradition from the translations and the commentaries of Boethius. The other Aristotelian stream was the more recent influx of the complete *Organon* of Aristotle through the Arabian translations. This occurred in the twelfth and the thirteenth centuries. The new impulse of Aristotle constituted a perfecting of the tradition and was called the *logica nova.* These works then made up the sum of the *logica antiqua,* the authorities on logic, Aristotle, Porphyry, Boethius, and Gilbert of la Porrée.[22]

The innovations in logic were not doctrines radically different but rather consisted in a series of treatises, formulated in the twelfth and especially in the thirteenth century which filled in the traditional presentation. This was called the *logica moderna,* or frequently, the *parva logicalia.* The *logica moderna* claimed to supplement, not to displace the tracts of the tradition. Led first of all by the Faculty of Arts at Paris, logicians moved into new and unexplored fields, exposing and explaining fine points hardly alluded to in the texts of the Stagirite. Far from

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[21]P. Boehner, "Ockham's Theory of Supposition and the Notion of Truth," *Franciscan Studies,* VI (1946), 262.

[22]J. P. Mullally, *The Summulae Logicales of Peter of Spain* (Publications in Medieval Studies, Vol. 8, Notre Dame, 1945), pp. xxxvii-xxxviii.

questioning Aristotle's authority, these logicians firmly asserted their orthodoxy and fidelity to the tradition, some even going so far as to make a feeble attempt to show how these new fields were explicitly reducable to an Aristotelian text.[23]

In detail then, the *logica moderna* eventually consisted in the following tracts:

1. Tractatus de syncategorematibus
2. Tractatus de proprietatibus terminorum
   a. *Tractatus de suppositionibus*
   b. Tractatus de copulatione
   c. De relativis
   d. De ampliatione
   e. De restrictione
   f. De appelatione
3. De insolubili et de impossibilibus
4. Tractatus de obligatione, de arte exercitativa
5. Tractatus de consequentiis.[24]

It is sufficient for our purpose to list these tracts without going into each more explicitly. As can be seen, the treatment of supposition is a part, the major part of the *Tractatus de proprietate terminorum*. It is only this tract which we shall speak of. Ockham has a principal role to play in the blending of the two logics, the ancient and the modern,[25] and of all the tracts which have felt his influence, the tract on supposition most fully reflects his rebellious spirit.

THE DEVELOPMENT OF SUPPOSITION

The method to be used in the subsequent treatment is this, to follow the development of supposition, relinquishing precisely the chronological order in a few places for doctrinal reasons. First of all the treatment of supposition in the *Summulae Logicales* of Peter of Spain (c. 1215-1277) will give us the first outlook of the doctrine according to that standard logical text of the day.[26] As could be expected, this treatment is doctrinally potential enough to be used and explained by the several varying schools which soon followed. Next will be seen the interpretation and explanation

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[23]P. Boehner, *Medieval Logic,* pp. 16-18.

[24]*Ibid.*, pp. 7-16.

[25]"Seine Hauptaufgabe sah er in einer Verflechtung der Logica antiqua, d.h. der aristotelish-porphyrianish-boethianischen Logik mit der terministischen oder Suppositionslogik, wie sie im dreizehnten Jahrhundert bei Wilhelm Shyreswood, Lambert von Auxerre, und inbesondere bei Petrus Hispanus ausgebildet vorlag." Ueberweg Fried., *Grundriss der Geschicte der Philosophie,* II, *Die partristische und scholastische Philosophie,* 12 ed., by B. Geyer, (Basle, 1951), p. 574.

[26]Peter of Spain, *Summulae Logicales* (ed. by J. P. Mullally), see note 22.

as given by the realists, that is, those who have seen the nominalist doctrines and are reacting against them. For this purpose our sources will be a treatise by William Sutton, a contemporary of Walter Burley, which explains the latter's stand on the question.[27] Reference will also be made to the Thomists John of St. Thomas and Gredt to fill out the moderate-realist stand on the matter. Finally, against this background it will be possible to interpret the outlook of Ockham with regard to this particular problem. This procedure forsakes the chronological order of the sources mentioned, to some extent, in favor of presenting the doctrine of Ockham against a background which can criticize it. In this way we can safely interpret his conclusions and see to what extent he veered from what has come to be the traditional view.

The *Summalae Logicales* of Peter of Spain stands out as one of the first logical introductions featuring the newer *logica moderna* which gained widespread and popular use. Its source was the School of Arts at Paris where Peter taught for a while. It was during this time, the middle of the thirteenth century that these new logical additions were being explicitly formulated, Paris being the center of such activities. William of Shyreswood, Lambert of Auxerre, and even Raymond Lullus have logical works which embody the new doctrine. But of all these it is Peter of Spain who stands out, not perhaps by his brilliance of doctrine or his insight, but rather by his mere brevity and also by the fact that he soon ascended to the papal throne as John XXI in 1276. Because of its ensuing popularity, the *Summulae* served to canonize the terminology in these doctrines. So it is here that we should begin the investigation of supposition.

The subject under consideration is the term, either as spoken or as written. Supposition is a property of terms. But to understand supposition it is first necessary to understand the more primary meaning of signification, and so, as later logicians were also to do, the author, Peter, begins with a definition of signification. Signification is the "rei per vocem secundum placitum repraesentatio."[28] Supposition, on the other hand, is the "acceptio termini substantivo pro aliquo." What is the difference? He explains, "Differunt autem suppositio et significatio, quia significatio fit per impositionem vocis ad significandum rem, sed suppositio est acceptio termini iam significantis rem pro aliquo."[29] Signification

[27]Wm. Sutton, *Textus de Suppositionibus*, from a copy of the manuscript, Vienna, OP, Cod. 160/130, fol. 123ra-rb.

[28]Peter of Spain, "Tractatus Suppositionum," *op. cit.*, p. 2.

[29]*Loc. cit.*

then deals with the term and its meaning. Supposition concerns the meaningful word as it is accepted for something other, "pro aliquo." In trying to identify the realities and the conceptions of realities involved in these two problems of signification and supposition, we shall soon see sharp differences of opinion. Peter of Spain, writing an introduction to logic, does not go into this problem at length. As a practical logician he stays out of the realm of psychology and metaphysics whenever possible. He is aiming at brevity in this work.

It is necessary now to examine the principal divisions of supposition. In detail, the divisions employed by Peter of Spain, William of Shyreswood, William of Ockham, and Walter Burley all show their individual differences, but the common principal division between *simple* supposition and *personal* supposition is found in all. This does not mean that the interpretation of this division is unanimous, but rather it indicates the authority and acceptance of the terminology of Peter, who first popularized this usage. For Peter of Spain supposition is divided as follows:[30]

I. Discrete
II. Common
  A. Natural
  B. Accidental
    1. Simple
    2. Personal
      a. Determinate
      b. Confused
        (1) Mobile
        (2) Immobile

Our chief concern will be with *simple* and *personal* supposition but the divisions leading up to these help to orientate ourselves with regard to the outlook of the respective authors. *Discrete* and *common* supposition refer to singular terms or to general terms. *Discrete* supposition is that which is had when the terms refers to an individual, either in itself, as by a proper noun, John, Peter etc., or by means of a demonstrative adjective as in "this man."[31] *Common* or general supposition is accomplished by means of any general term, a term which we usually call a common noun.[32] This division occurs in almost all of the subsequent authors, being placed however either on an equal footing as the *simple-personal* division, or more commonly, included under personal supposition itself.

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[30]*Ibid.*, pp. 2-14.
[31]*Ibid.*, p. 4.
[32]*Loc. cit.*

Natural–accidental supposition found little place in the subsequent treatises, for, according to Peter of Spain, natural supposition is the acceptance of a general term for all those things of which, by its original imposition it can be a sign.[33] *Accidental* supposition is the acceptance of a general term for all those things its adjunct determines; its adjunct here particularly refers to verbs.[34] In short, *natural* supposition refers to terms absolutely, outside of propositions, while *accidental* supposition refers to the acceptance of a term as the verb, or even as the whole predicate might dictate. For most logicians treating this problem, it is only in the latter case that supposition really is found. They all make a point of the fact that supposition is a property of terms as they appear in propositions and only as such. This position remained as the traditional one.[35]

Given this beginning, it is here where we enter upon the battle ground of the philosophers. *Accidental* supposition is divided into *simple* and *personal. Simple* supposition is the "acceptio termini communis pro re universali significata per ipsum terminum . . ."[36] The words "pro re universali" plainly indicate the realistic stand of Peter of Spain on the problem of universals so vitally connected with supposition. His logic, if anything, exhibits an exaggerated realism so characteristic of earlier medieval logicians. For logical purposes this position is understandable. The examples he produces are these: Man is a species. Animal is a genus. In these examples the subject of the sentence is a term which supposes for the universal. The predicates are true only of the subject as it is a universal, as it is predicable of many. And so we see the logical property of *simple* supposition accepted by all, that it is not permissable to descend to the individuals contained or inferred by the universal term in this sentence and still have the sentence make sense. For example, although it is reasonable to say, "Man is a species;" it hardly makes sense to conclude therefore that "Sam is a species," because, "Sam is a man." This rule, I say, is acceptable to all. But the explanation of it and its entitative implications comprise the core of the dispute.

Personal supposition on the other hand, is the "acceptio termini communis pro suis inferioribus . . ."[37] In the example, "A man runs," the term "man" does not stand just for the universal man but rather for the

[33] *Loc. cit.*
[34] *Loc. cit.*
[35] P. Boehner, *op. cit.*, p. 10.
[36] Peter of Spain, *op. cit.*, pp. 4, 6.
[37] *Ibid.*, p. 8.

supposit, an individual man, and moreover, in this case, for a man who now exists. The difference is between the universal, however it may exist, and the individual. Peter of Spain breaks the ice for the ensuing controversy. He sets the pattern and, although, as could be expected, his definitions and divisions are preliminary and subject to many revisions, nevertheless the tenor of the treatment is decidedly realistic.

Before proceeding to examine the moderate-realists' stand on supposition, it would serve to clarify matters if we treated briefly the history of the preliminary divisions of supposition, the divisions leading up to the principal *simple–personal* division. By doing so we will then be able to concentrate on the problem at hand, without further reference to these preparatory divisions.

Peter's first two divisions never were accepted in their given place. The *discrete–common* division, if retained, was soon relegated to a less prominent position. The *natural–accidental* division suffered a similar fate, and was more frequently dropped than retained. What is important though, is the rise of two sets of distinctions which did retain their place before the *simple–personal* distinction.

The first of these distinctions is the division into *material* supposition and *formal* supposition. This was first proposed in the *Introductiones in logicam* of William Shyreswood (d. after 1267), a contemporary of Peter of Spain.[38] *Material* supposition, the new addition, is had when the term stands for itself; e.g. "Man" is a monosyllable. "Man" is a noun.[39] *Formal* supposition includes all the other kinds of supposition and is found when the term stands for its meaning. This, then is divided into *simple* and *personal,* etc.

The other significant addition to the preliminary divisions of supposition was the *improper–proper* division introduced by William of Ockham himself in the last chapter of the first part of his *Summa Logicae.*[40] *Improper* supposition is had when the term supposes improperly, e.g. in a metaphorical sense. *Proper* supposition is had when a term has no metaphorical meaning. This division soon found its way into subsequent tracts on supposition by followers of all schools and it persists today as

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[38]P. Boehner, *op. cit.*, p. 47.

[39]E. Gilson, *History of Christian Philosophy in the Middle Ages*, p. 679, footnote 38.

[40]Wm. Ockham, *Summa Logicae* (ed. by Boehner), Ia pars, c. 77. Note: The chapter numbers in the edition by Bochenski often differ by one. The problem concerns the authenticity of Boehner's c. 51.

the first division of supposition. Supposition generally is now divided thus:

Supposition:
- I. Improper
- II. Proper
  - A. Material
  - B. Formal
    1. Simple
    2. Personal

(Beyond this point there is considerable variation.)

With the historical roots and preliminary divisions of supposition sufficiently established, it remains for us to examine the conflict between the realists and the Ockhamists in this matter of supposition. The conflict revolves around the interpretation of *simple* and *personal* supposition. How are they to be defined? What are the realities behind signification and supposition?

THE STAND OF THE REALISTS

The position of the realists on supposition is represented in this paper by William Sutton (d. before 1349), a fellow of Merton College, Oxford, and a contemporary of Ockham. Sutton's brief tract *De Suppositionibus* is intended to be a summary of the stand taken by the realists after the attack by Ockham. Of course the realists maintained their position before the attack by the Nominalists' standard-bearer but the advantage of such a tract is to see in an explicit way the effects of the conflict. Sutton's definitions and divisions faithfully represent the position of Walter Burley (d. after 1343), a more noted realist opponent of Ockham.[41]

Sutton accepts Ockham's introduction of the *proper* and *improper* suppositions and further divides according to the lines above; *material* and *formal, simple* and *personal.* The latter distinction is defined as follows:

> Suppositio formalis simplex est quando terminus supponit pro suo significato. . . .
> Suppositio formalis et personalis est quando terminus supponit pro supposito et etiam suppositis significatis.[42]

In both of these cases the terms stand for things signified, "pro suo significato," and "pro . . . suppositis significatis." What then is the difference?

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[41]Walter Burley (Burlaeus), der doctor planus et perspicuus and realistische Bekämpfer des Ockhamschen Nominalismus, der in Paris und in Oxford dozierte und nach 1343 (Denifle) starb." Ueberweg-Geyer, *op. cit.*, p. 621.

[42]Wm. Sutton, *loc. cit.*

Simple supposition can be of two kinds. The first is a more abstract kind, as in the example "Bos tibi promittitur." This he explains saying, "Bos enim hic supponit pro natura bovina et non pro hoc bove vel pro isto."[43] This is the case when the term is used in a general and indistinct way to signify the nature, not any particular individual. The second kind of simple supposition is a comparative kind which uses predicates implying what might be called "intentional" quantities rather than "extensional" values. Examples of this kind are: "Homo est substantia; animal est genus; Sortes est individuum."[44]

Sutton's intent is clear even if the examples might be controverted. Later realists would restrict the meaning of *simple* supposition so that only one of the above examples would make the grade. However in essential outlook he stands firmly for the realist position. *Simple* supposition is definitely significative. Moreover, *simple* supposition exercizes the term in a universal sense, standing for the nature of the thing. This means that *simple* supposition is immediately concerned with the universal nature. *Personal* supposition refers to individuals having that nature.

To further clarify the realist's stand we refer now to the treatment of supposition by a much later philosopher, John of St. Thomas (1589–1655). His precise formulation of the definitions involved here gives us an explicit difference between the two suppositions, using the distinction *immediate* and *mediate*.

> Suppositio simplex est acceptio termini pro eo quod primo et immediate significat et non mediate. . . . Suppositio ergo simplex est acceptio termini pro eo, quod est significatum primario et immediate, ita praecise, quod non transit ad secondarium significatum, et ad ea in quibus invenitur primarium, sed cum praecisione stat pro primario significato.[45] Suppositio personalis est acceptio termini pro individuis seu pro his quae materialiter et mediate significantur.[46]

John of St. Thomas sees the problem in terms of immediate or mediate significance. His example of *simple* supposition is "Homo est species." "Homo" supposes *personally* in the proposition "Omnis homo est animal." *Simple* supposition for him is restricted to only those cases where descent to the individual is impossible. Because Peter is a man it is not true to say that he is a species; although the descent to the individual, Peter,

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[43]*Loc. cit.*
[44]*Loc. cit.*
[45]John of St. Thomas, *Cursus Philosophicus Thomisticus* (ed. Reiser; Taurini: Marietti, 1930), *Ars Logica*, "Summularium," Liber II, Caput XI, pp. 31-32.
[46]*Ibid.*, p. 32.

is verified in the case of the predicate "animal." By so restricting the meaning of *simple* supposition, John of St. Thomas is able to produce a definition with all the precision necessary. *Simple* supposition for him then, is when the term stands for the immediate significate, and for precisely that. It is obvious that *simple* supposition has a logical primacy over *personal* supposition, although we more frequently use the latter in our common, non-scientific speech.

This relationship between the universal meaning of a word, and the concrete material meaning of it is crucial in treating of the whole controversy on supposition. By citing William Sutton and John of St. Thomas, we can see this point explicitly treated. But they were not the only ones to touch upon the distinction. It was an old principle for the realists. St. Thomas Aquinas himself enunciates the principle in his commentary on the *Sentences* saying;

> Respondeo dicendum, quod in quolibet nomine est duo considerare; scilicet id a quo imponitur nomen, quod dicitur qualitas nominis; et id cui imponitur, quod dicitur substantia nominis; et nomen proprie loquendo, dicitur significare formam sive qualitatem, a qua imponitur nomen; dicitur vero supponere pro eo cui imponitur.[47]

He gives us an example in the article previous to the above, saying:

> Ad quartum dicendum quod homo significat humanam naturam, et supponit pro supposito subsistente in natura illa.[48]

These texts bring out several points. The doctrine of signification and all it embodies is important to the understanding of supposition. Words themselves signify. If they are used in a proposition or sentence they are said to suppose. When they suppose merely the significate, (and for the realists this means the known nature taken as known) then there is *simple* supposition. If on the contrary they suppose in a sense which is more than mere signification, that is, if they stand for the individuals or individual having the signified nature, then this is supposition in a fuller, yet logically mediate and secondary sense. The authorities agree on several points:

1. *Simple* supposition stands for the significate, "pro suo significato."
2. The immediate significate is the universal nature.
3. *Simple* supposition is logically prior to *personal* supposition.

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[47]St. Thomas Aquinas, *Comm. in III Librum Sent.*, dist, 6, quaest. 1, art. 3, sol., (Parma edition, 1857, Tome VII, p. 82 a).

[48]*Ibid.*, q. 1, a. 2, ad 4 (p. 81 b).

This is the stand of the realists. It is here, in this matter of supposition that they, the *antiqui* were to separate from the *moderni*, the conceptualists or nominalists.[49] The realists' position is founded on their maintaining the reality of the universal and on their analysis of the nature of cognition itself. It is because of these deep roots that the relatively insignificant part of logic called supposition can be so important. The doctrine of supposition manifests a stand on principles. Since this is so, it will be helpful to examine these "actions" of supposing *simply* and *personally* in the light of their psychological structure to really see the reason for the definitions. We have the facts of their stand from the texts. Now we look for the reason behind such facts.

What are the entities involved in eplaining supposition? For the realists there would be the term, either spoken or written, the formal concept, the objective "concept," and the individuals existing in nature. The process which must first be understood is the process of signification which underlies supposition.

There is no problem in understanding what the spoken or written word is. About the formal concept much must be said. The formal concept is the expressed species produced by the mind and existing in the mind as a spiritual quality. It is the intentional image *in which* we contemplate the formal object of our knowledge.[50] This formal concept can be considered under two aspects. First of all *in actu signato* as the physical quality of the intellect reducible to the first species of quality. It can also be considered *in actu exercito* as it is exercizing its function as a sign.[51] It is a natural sign, something which naturally manifests another thing. Natural signs are twofold. A natural instrumental sign, which is the way a natural effect manifests its cause, as smoke manifests fire, is the first kind of natural sign. The other kind is called a natural *formal* sign, which, without any previous knowledge of the signified, immediately manifests the signified.[52] This unique type of sign is the formal concept. And so, the formal concept understood *in actu exercito* is the formal concept taken as manifesting or signifying something in this unique way,

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[49]"L'interprétation de la *suppositio simplex* fut la cause de la séparation des *moderni* ou terministes dans le sens étroit, des *antique.*" Michalski, K., "Le criticisme et le scepticisme dans la philosophie du XIVe siecle," from a copy of a reprint (1926), p. 78, originally in *Bulletin international de l'Académie polonaise des sciences et des lettres, Classe d'Histoire et de Philosophie,* Cracow (1926).

[50]Jos. Gredt, *Elementa Philosophiae Aristotelico-Thomisticae* (Barcelona: Herder, 1953), Vol. I, Logica, Pars I, c. I, p. 10.

[51]John of St. Thomas, *op. cit.*, Log. P.I., Quaest, Disput., q. 1, a. 5, p. 105 b.

[52]Gredt, *op. cit.*, Vol. I, p. 11.

as a formal sign. That which the formal concept makes known, that is, that which is known in the formal concept is what is analogically called the objective concept.

The objective concept is nothing else but the known thing, known in direct intellection not as an individual but in a universal way. It is the "quiddity" or essence which is found individualized in nature. This objective concept is not at all like the formal concept. It is the essence of the thing which exists, known as the object of our intellection. It is the true universal, the universal *in essendo*. This is what makes the realists to be realists. Because they claim that this intentional being does not exist as a universal in physical nature, they are said to be moderate realists.

By the process of signification, the spoken word signifies first of all the formal concept, not considered *in actu signato*, but *in actu exercito* as it immediately and naturally signifies the objective concept.[53] By the same imposition or process whereby the term signifies both the formal and the objective concept, it also signifies the individuals, but it does this mediately, through the objective concept.

> Voces ergo unica significatione significant res et conceptus . . . significant res et conceptus non aeque immediate, et unum seorsum ab alio, sed unum mediante alio et ut subordinatur alteri; ergo sufficit eadem significatio ad utrumque. . . .
> . . . voces immediate significant conceptiones mentis et illis mediantibus res.[54]

Again the thing to note is the fact that for the realists, any reference to the individuals is mediated by a reference, unreflexive, but nevertheless necessary, to the concept. By concept is meant both the formal and the universal objective concept. The key to cognition for the realists is the objective concept.

Simple supposition is to be understood as the reference of the signifying term to what it immediately signifies principally, the objective concept, taken precisely as it exists in its objective state with all the relations which are proper to it in this state, namely its predicability, as it is a genus or species.

Personal supposition is to be understood as the reference of the signifying term to what it mediately signifies, mediately through the

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[53]John of St. Thomas, *op. cit.*, Log. P.I., Quaest. Disput., q. 1, a. 5, p. 107 a.
[54]*Ibid.*, p. 105 a-b.

objective concept, namely the individuals which are connoted by the universal concept.[55]

This is the position of the realists. It has been simplified somewhat to abbreviate what has come to be a laborious task. Not every example has been explained, and *simple* supposition has been taken in its most restricted sense. But now, with the facts before us, we can see what William of Ockham did to the doctrine of supposition, and what his innovations really stood for.

OCKHAM'S SUPPOSITION

The task before us now is to examine the treatment of supposition in a critical way, with an eye out for the real differences which caused such a break in the scholastic tradition. Again it will be best to see what Ockham means by signification, since this to a large extent will determine his outlook on the rest of the problem.

First of all we should look at the elements, the realities which enter into the process of signification, following the same method which we used for the realists. Terms are either written, spoken, or mental terms; the latter he calls the concept: ". . . sic triplex est terminus, scilicet scriptus, prolatus et conceptus."[56] As we have seen the most controversial point at hand concerns the mental term or concept. This Ockham defines as an "intentio seu passio animae aliquid naturaliter significans . . ."[57] The concepts are psychic realities. "Hence they are singular things," Boehner reports, "belonging to the category of quality, inherent in the soul as whiteness is inherent in the wall."[58] It is obvious that by this, Ockham is referring to that reality which the realists would call the formal concept. The formal concept, all would agree, *in actu signato* is merely a quality of the soul. But what does it stand for *in actu exercito,* formally? What does it signify?

For the realists, you remember, the word immediately signified the concept or the concepts, for it signified the formal concept as it was acting in its role as a natural formal sign of the objective concept, the true universal. But,

> According to Ockham the word, for instance *homo,* and the corresponding concept of man immediately signify everything which is a man or

[55]Gredt, *op. cit.*, Vol. I, p. 108.
[56]Ockham, *Summa Logicae,* c. 1, p. 8.
[57]*Loc. cit.*
[58]P. Boehner, "Ockham's Theory of Signification," *Franciscan Studies,* VI, (1946), 155.

> has been a man or will be a man or is possibly a man. Hence both signs, the natural, which is the concept, and the artificial which is the noun, are parallel in their signification.[59]

There is no mention of the objective concept; no reference to real universality. Instead:

> Dicendum est igitur, quod quodlibet universale est una res singularis, et ideo non est universale nisi per significationem, quia est signum plurium.[60]

Ockham's universals are such only *in significando* and not *in essendo.* They are twofold, the word and the concept, differing in their mode of signification.

> Universale duplex est: Quoddam est universale naturaliter, quod scilicet naturaliter est signum praedicabile de pluribus, ad modum proportionaliter, quo fumus naturaliter significat ignem et gemitus infirmi dolorem et risus interiorem laetitiam. . . .
> Aliud est universale per voluntariam institutionem. Et sic vox prolata . . .[61]

For Ockham then, signification is the pointing out of individuals by a language-sign, either the natural but *instrumental* sign, the formal concept, or arbitrarily by the word subsequently chosen *ad placitum.* If one objects that there must be a true universal to explain such statements as "Man is a rational animal," he would reply by explaining that the concept of man, here, was an *intellectio confusa* compounded by the various significates taken collectively.[62]

Ockham rejects the notion of the true universal, the objective concept, and identifies whatever might be called universal with his language-signs, primarily the formal concept, and secondarily the spoken and even the written word. These signify the individuals immediately. There is no such process as natural *formal* signification. In these matters Ockham has again made use of his "razor." Rejecting the true universal, he recklessly but relentlessly applies his principle, ". . . frustrua fit per plura, quod potest fieri per pauciora . . ."[63] So, having understood what he meant by signification, we can now see why he defined supposition so differently than the realists.

The Venerable Inceptor's treatment of supposition is contained in the first part of his tripartite *Summa Logicae.* For him, as for most of the

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[59]*Ibid.*, pp. 158-159.
[60]Ockham, *op. cit.*, c. 14, p. 44.
[61]*Ibid.*, p. 45.
[62]Boehner, *op. cit.*, p. 156.
[63]Ockham, *op. cit.*, c. 12, p. 39.

authors after Peter of Spain, supposition is a property of terms only as they appear in a proposition: ". . . de suppositione, quae est proprietas conveniens termino, sed numquam nisi in propositione."[64] In chapter sixty-four he divides supposition into *personal, simple* and *material.* It is only afterwards in chapter seventy-seven that he mentions the more preliminary division of *proper-improper* supposition. His definitions are as follows:

> Suppositio personalis universaliter est illa, quando terminus supponit pro suo significato, sive illud significatum sit res extra animam, sive sit vox sive intentio animae, sive sit scriptum, sive quodcumque aliud imaginabile, ita quod quandocumque subiectum vel praedicatum propositionis supponit pro suo significato, ita quod significative tenetur, semper est suppositio personalis. . . .
> Suppositio simplex est, quando terminus supponit pro intentione animae, sed non tenetur significative. . . .
> Suppositio materialis est, quando terminus non supponit significative, sed supponit vel pro voce vel pro scripto.[65]

The differences between the terminology used by Ockham and the terminology used by the realists are obvious. With regard to *material* supposition there is no problem. But with regard to the other two types, the definitions given by the two sides are contradictory. *Simple* supposition for the realists meant that the term stood for its immediate significate, "pro primario significato." For Ockham, *simple* supposition means that the term is *not* taken significantively, "sed *non* tenetur significative." Yet the remarkable thing in this disagreement is that the example used by both sides is the same, "Homo est species." The difference then goes back to the meaning of signification. Consider Ockham's treatment of signification, and you will see it in action here.

In the above example the term, "Homo," has *simple* supposition. Why is this so? Because it does not stand for the supposites, which, for him, are the immediate significates.

> For it is evident that the term does not signify in this proposition any one of its significates which [for Ockham] are individual men. Since it does not signify any individual or significate, it cannot have, or rather it does not perform, its significative function either. Therefore, the only thng left for which it can stand meaningfully in this connection is the concept *Homo.* This is in complete accordance with Ockham's conceptualism and denial of any universality and unity less than numerical unity outside the conceptual order.[66]

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[64]Ibid., c. 63, p. 175.
[65]*Ibid.*, c. 64, pp. 177-178.
[66]P. Boehner, "Ockham's Theory of Supposition and the Notion of Truth," *loc. cit.*, p. 266.

A problem however, arises. If the concept is in no way taken for its significative value, by what right can *species* be predicated of it, rather than *genus* or *individuum*. These universal predicates of the second intention are meaningless unless grounded in something of the first intention, which is concerned with the significates. This problem is not solved.

From his rejection of the true universal, Ockham finds himself in a perplexing situation. With no objective concept, there is no natural fomral sign of such a concept. Thus he has lost those concepts which were the immediate significates of the realist's term. This leaves him with nothing but the formal concept, taken as a natural *instrumental* sign. This concept is all he has left of which to predicate *genus* and *species*. And so he does just that, but he should have seen that it was a poor substitute, for such a concept is not at all the significate of the term. Still he stands firm against the realists.

> Ex hoc patet falsitas opinionis communiter dicentium, quod suppositio simplex est, quando terminus supponit pro suo significato; quia suppositio simplex est, quando terminus supponit pro intentione animae, quae proprie non est significatum termini, quia terminus talis significat veras res et non intentiones animae.[67]

Personal supposition is the supposition concerned with the individuals. For Ockham, remember, signification itself is the immediate pointing out of individuals. So for him, *personal* supposition is when the term supposes for its significate: ". . . pro suo significato et significative."[68] Because of its close relationship to signification it is *personal* supposition which "is the first and most basic supposition and consequently has primacy over simple and material supposition."[69] The realists would not dispute the fact that we most often use *personal* supposition, but they would (and they did) protest vehemently that logically speaking, or even psychologically, *personal* supposition is effected *mediately*, and through the universal nature.

Summarizing Ockham's position on supposition we can say that for him:

1. Simple supposition does not stand for the significate.
2. The immediate significate is the individual or individuals.
3. Personal supposition is even logically prior to simple supposition.

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[67]Ockham, *loc. cit.*
[68]*Ibid.*, c. 64, p. 178.
[69]Boehner, *op. cit.*, p. 270.

Thus we can see clearly the dichotomy between the *antiqui,* and the father of the nominalists. The Venerable Inceptor's doctrines on supposition and signification provide a good touchstone for his whole philosophical outlook. From the principles involved in this controversy we can see ramifications which cover the whole field of truth.

The objective concept is gone, the only true universal. With it goes the psychological proof of the immateriality and the immortality of the soul. To call universal concepts merely confused conceptions of singulars is a conclusion which likewise follows from an absolute sensism. Ockham was no sensist. But his explanations would be a comfort to such a position. In losing true universal knowledge and retaining only the natural instrumental sign Ockham must maintain that we have direct intuitive intellectual knowledge of those individuals to be signified. By losing the objective concept the whole idea of science, true, universal knowledge reverts to the knowledge of concepts or even of singulars. Thus he says:

> . . . scientia quaelibet, sive sit realis sive rationalis, est tantum de propositionibus tamquam de illis, quae sciuntur, quia solae propositionibus sciuntur. . . ,

and then,

> . . . scientia isto modo est de rebus singularibus, quia pro ipsis singularibus termini supponunt.[70]

Such was the doctrine which arose in the period of skepticism following the climax of the thirteenth century. The seeds sown by William of Ockham, the founder of the insurgent party of nominalists, were soon to be cultivated in the greatest centers of intellectual activity of the day, Paris and Oxford. He was to have many disciples who would amplify his ideas and apply them to ever widening fields. The period of construction for scholasticism was to taper off as the new period of criticism achieved its maturity. It is to the rebellious friar that the *moderni* would turn as the fountainhead of reaction, the leader of the corruptive crusade. In devastatingly simple terms Gilson summarizes the shadow left by Ockham on the intellectual world of the fourteenth century.

> The consequence of Ockhamism was to substitute for the positive collaboration of faith and reason which obtained in the golden age of scholasticism, a new and much looser regime in which the absolute and self-sufficient certitude of faith was only backed by mere philosophical probabilities.[71]

Albert Judy, O.P.

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[70]Wm. Ockham, *In I Sent.*, d. 2, q. 4; cited in Ueberweg-Geyer, *op. cit.*, p. 580.
[71]Gilson, *op. cit.*, p. 489.

THE CONDEMNATION OF GALILEO

THE QUESTION OF GALILEO and the Roman Catholic Church seems destined never to die out. Myths and prejudiced accounts have raised it from the rather insignificant place which it deserves in the perspective of history, to a position of historical prominence. For more than three centuries, the condemnation has been a subject of controversy. The facts of the case have been woven into imaginative accounts; some defending the action of the Holy Office without qualification, others portraying Galileo as a martyr to truth.

What is most needed for a thorough understanding of the case is a critical study of the facts, evaluated with objective insights into the times, circumstances and motives of the main figures involved. Historical understanding is impossible when the facts are abstracted from their human-temporal context. This paper is intended to give a factual account of *what* happened, and an explanation of *why* it happened as it did, according to present scholarship.

Galileo Galilei was born at Pisa, on February 15, 1564. After early training from the monks at Vallombrosa,[1] he entered the University of Pisa in 1581, and began the study of philosophy and medicine. But his native genius in mathematics and mechanics quickly asserted itself and he soon devoted himself entirely to these sciences. Even as a student, his mathematical experiments led him to several discoveries.[2] An able treatise on the center of gravity in solids also won him some acclaim. In 1588, he accepted a lectorship in mathematics at the University of

[1]"Galileo was for a short time a novice at Vallombrosa and received part of his education there." Raymund Webster, "Vallombrosan Order," *Catholic Encyclopedia,* XV (1912), p. 262.

[2]The isochronism of the pendulum, the hydrostatic balance, etc.

Pisa. It was then that his troubles began. His lectures, often based on his own experiments, contradicted some commonly-held Aristotelian theses. Disputes arose between Galileo and the Aristotelian faculty. It must be remembered, however, that Galileo's opponents were more philologists than philosophers. They were influenced by the still-lingering Renaissance movement. In typical humanist fashion, they were more interested in what the texts of the Stagirite said, than in the thoughts or discoveries, however convincing, of their contemporaries. Galileo described them, in a letter to Kepler, as people who think, "that philosophy is a sort of book like the Aeneid or the Odyssey, and that the truth is to be sought, not in the universe, not in nature, but by comparing texts!"[3] Galileo's irascible and sarcastic attacks coupled with the stubborn unwillingness of the Aristotelians to concede even the smallest point, caused a bitter conflict. The result was that Galileo, in 1592, left Pisa.

Within a few months, he was appointed by the Venetian Senate to the chair of mathematics at the University of Padua, a post he was to hold for eighteen years. It was while at Padua that he invented a thermometer, wrote many treatises on mechanics, and, most important, became interested in astronomy.

The geocentric system of the universe was the accepted astronomical theory of the time. It had been constructed by Claudius Ptolemy (fl. 150 B.C.) and was in full accord with the Aristotelian view of an earth-centered universe. The merit of the Ptolemaic astronomy rested on the fact that it "saved the appearances". Sense experience pointed to the earth as the immovable center of the universe. To be sure, there had been opposition to the geostatic system of Ptolemy. Nicole Oresme, in the fourteenth century, had written of a rotating earth at the center of an otherwise motionless universe. Nicholas Copernicus, following the ancient view of Pythagoras, (fl. 530 B.C.) and Aristarchus of Samos (fl. 280 B.C.), postulated an immovable sun, around which the earth revolved like a planet. The Copernican system did have the advantage of being a complete system, while the Ptolemaic was more a mathematical device for locating individual planets. But it was generally thought, largely due to the famous preface by Andrew Osiander, that Copernicus' *De Revolutionibus Orbium Caelestium,* published in 1543, was nothing more than a theoretical speculation about the heavens.

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[3]In von Gebler's, *Galileo Galilei and the Roman Curia,* p. 26; quoted by J. Broderick, *Blessed Robert Bellarmine,* (London: Burns, Oates, and Washbourne, 1928), p. 341.

We know from a letter which Galileo wrote to Kepler in 1597,[4] that he had abandoned Ptolemy and become an avid supporter of Copernicus as early as 1594. As Crombie remarks, it was to become the great passion of Galileo's life to establish the *necessary* truth of the Copernican hypothesis.[5]

In 1608, the telescope was invented in Holland. Galileo, perceiving the value which such an apparatus would have in his search for proof of the heliocentric theory, applied his mechanical talents to the construction of a telescopic instrument. He succeeded in constructing a telescope which magnified to three diameters. He soon built a larger one, magnifying to eight diameters, which he presented to the republic of Venice, and afterwards, a third one, which had the magnifying power of thirty-three diameters. With this instrument he searched the heavens.

He discovered that the moon was not a perfect sphere, as had been thought, but was marred with mountains and valleys. He saw the sun spots. He found the four satellites of Jupiter, which he named the "Medicean Stars", in honor of the Grand Duke of Florence, Cosimo II. He noted the phases of Venus. In March, 1610, he published the *Siderius Nuntius,* which contained an account of all his discoveries up to the date of publication. His fame spread rapidly. The Grand Duke appointed him Ducal Philosopher and Mathematician, with an annual income of one thousand gold florins.

But the university Aristotelians, in defense of their master's cosmology, came forth with angry reclamations. They based their opposition on several strong points. First, the Copernican theory contradicted the sense experience of all men. Secondly, it was in complete disagreement with most of the great philosophers of the ages. And, thirdly, they attacked the theory on the grounds that it contradicted the very words of Sacred Scripture. This last objection was not new. Luther and Melanchton had used it to denounce Copernicus himself. The Lutheran professors of Tubingen had forced John Kepler, a Copernican defender and himself a Lutheran, to flee to the Catholic University of Graz in order to avoid their persecution.

But it was Aristotle himself who had put forth the strongest argument against the heliocentric hypothesis. If that theory were true, the Phil-

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[4]Letter quoted by Giorgio de Santillana, *The Crime of Galileo,* (Chicago: University of Chicago Press, 1955), p. 11.

[5]A. C. Crombie, "Galileo's 'Dialogues concerning the two Principal Systems of the World,'" *Dominican Studies,* III, (1950), 113.

osopher said, stellar displacements or parallaxes would be observable. Yet no such thing was yet observed.[6] Broderick writes that, "this objection thus raised at the very beginning of astronomical history was to prove, in Kepler's words, 'a huge mouthful for the Copernicans to swallow', was to cast a gloom over Galileo's later years, and was to remain unanswered until Bessel . . . succeeded in determining the parallax of the star 61 Cygni in December, 1838."[7]

Galileo was greatly excited by his discoveries. He was firmly convinced that Copernicanism was more than a theory. On March 22, 1611, he set out for Rome with the intention of seeking confirmation of his discoveries from the Jesuit astronomers there, and of using their endorsement to convince a few of the influential Cardinals of the Church that the earth did move.

His reception in Rome was most encouraging. He wrote to his friend Salviati, "I have been received and feted by many illustrious cardinals, prelates, and princes of this city."[8] Pope Paul V granted him a long audience. Prince Federico Cesi appointed him a member of the Accademia de'Lincei, a sort of Italian Royal Society. The Jesuit astronomers were thrilled by his lectures on the stars. In June, 1611, Galileo returned to Florence, happy in the knowledge that his discoveries had been confirmed, and that his name was on the lips of many high Roman officials.

Despite his stunning findings, Galileo still had no real proof that the Copernican hypothesis was any more than a theory. The fact is that everything he discovered could be made to fit into the astronomical system of Tycho Brahe, who had the planets revolve around the sun, while the sun was revolving around the earth. Brahe's system could explain Galileo's two chief discoveries, the satellites of Jupiter and the phases of Venus, while still keeping the earth as the center of the universe. These and other meaningful objections were brought against the Copernican theory by both astronomers and philosophers. Galileo was fighting centuries of tradition, and tradition is slow to yield unless solid reasons are brought forth to force it into the background. His lack of proof notwithstanding, in the *Letters on the Sun Spots*, published under the sponsorship of the Lincei in 1613, Galileo declared that the Copernican system was the true system of the universe.

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[6]Aristotle, *De Caelo* (ed. Ross, vol. II, *The Works of Aristotle;* Oxford: Clarendon Press, 1930), II, ch. 10, 296b 4-7.

[7]J. Broderick, *op. cit.*, p. 328.

[8]Letter quoted by G. de Santillana, *op. cit.*, p. 23.

The growing controversy now became a popular subject of discussion. With unhidden curiosity, the speculation of both experts and amateurs came to center on the Scriptural argument.[9] How could a moving earth and an unmoving sun be reconciled with the words of Psalm 92, "For he hath established the world which shall not be moved;"[10] or the command of Josue, "Move not, O sun, toward Gabaon, nor thou, O moon, toward the valley of Ajalon. And the sun and the moon stood still . . .;"[11] or the many other passages which were cited as indicating a geocentric universe?

This was the subject of discussion at the Grand Duke's table on December 12, 1613.[12] A Benedictine named Castelli, who was a disciple and friend of Galileo, defended the views of his master. Castelli later described the discussion in a letter to Galileo, who answered in the form of the *Letter to Castelli.* Koestler remarks that the purpose of this *Letter* was "to silence all theological objections to Copernicus. Its result was the opposite; it became the principal cause of the prohibition of Copernicus and the downfall of Galileo."[13] He began the *Letter* with the orthodox view that Sacred Scripture cannot lie or err; but commentators on Scripture can make mistakes if they interpret in a literal way, what is intended in a figurative sense only. In questions of natural science, he continued, one is not bound to believe the Bible. Furthermore, in this matter of interpreting Scripture, *necessary* conclusions from the evidence of the senses ought to be enough to show that any Scriptural quotations which state the opposite, should be re-interpreted.[14] The implication here is obvious enough. Since Copernicanism is a necessary deduction from the evidence of Galileo's senses, Scripture must be re-interpreted.

The *Letter to Castelli* caused a stir. On December 20, 1614, a Dominican Friar, Tommaso Caccini, preached a sermon inveighing heavily against the ideas of a moving earth. The fact that Father Luigi Maraffi, a Dominican Preacher-General, wrote a formal apology to Galileo, did little to placate Galileo and even less to counteract this fresh impetus

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[9]Whether or not Galileo's Aristotelian enemies introduced the Scriptural argument into the controversy, they did recognize it as a potent weapon with which to stop his assertions.

[10]Psalm 92:1.

[11]Josue, 10: 12-13.

[12]Later expanded by Galileo into the *Letter to the Grand Duchess Christina of Lorraine.*

[13]Arthur Koestler, *The Sleepwalkers,* (New York: MacMillan, 1959), p. 434.

[14]"Letter to Castelli," *Opere di Galileo* (Ediz. Naz.), VII, 39-45; quoted by Broderick, *op. cit.,* p. 349-351.

to theological speculation. On February 7, 1615, Father Nicholas Lorini sent a copy of the *Letter* to Cardinal Paolo Sfondrato, one of the Inquisitors-General, who then submitted it to the Holy Office for examination. The opinion of the Holy Office was that, with the exception of a few words, the *Letter* seemed innocent enough.

Two months later, in April, 1615, Cardinal Robert Bellarmine wrote to Father Paul Anthony Foscarini, a Carmelite, who had recently published a book which tried to show that the doctrine of the motion of the earth and the immobility of the sun was not opposed to Sacred Scripture. Bellarmine stated that both Foscarini and Galileo "would act prudently", were they to content themselves with speaking "hypothetically and not absolutely." The letter went on to say that:

> . . . to want to affirm that the sun, in very truth, is at the center of the universe and only rotates on its axis without going from east to west, is a very dangerous attitude and one calculated to annoy not only all scholastic philosophers and theologians, but also to injure our holy faith by contradicting the Scriptures . . . If there were a real proof that the sun is in the center of the universe, that the earth is in the third heaven, and that the sun does not go round the earth but the earth round the sun, then we should have to proceed with great circumspection in explaining the passages of Scripture which appear to teach the contrary, and rather admit that we did not understand them, than declare an opinion to be false which is proved to be true. But as for myself, I shall not believe that there are such proofs until they are shown to me . . .[15]

Galileo's friends in Rome informed him of Bellarmine's feelings on the subject, and warned him to treat Copernicus hypothetically and to avoid Scriptural and theological arguments. Had Galileo been willing to accept the fact that he could not prove the Copernican hypothesis and resigned himself to teaching it as a theory until proof could be found, the case would have rested there.

But Galileo had gone too far to stop now. Koestler says that, "he was beyond listening to reason. For, by accepting the compromise that he could teach Copernicus (even as a superior hypothesis) he would disclose to the world that he had no proof, and would be laughed out of court."[16] This may be a little strong. But the fact remains, that he soon set out for Rome to convince the Church officials to accept Copernicanism as a fact—and to re-interpret Scripture in the way he had suggested.

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[15]*Opere di Galileo* (Ediz. Naz.), XII, 171-2; quoted by Broderick, *op. cit.*, p. 359-60.

[16]Koestler, *op. cit.*, p. 449. Parentheses mine.

Arriving in Rome on December 7, 1615, Galileo was again given a cordial reception. But the honors and respect paid to him caused him to overestimate his own influence. He thought that he was now in a good position, as the Tuscan Ambassador Guicciardini phrased it, "to break the obstinacy of the Friars and wage a war." But, as Guicciardini added, it was a war in which "he could only be the loser."[17] In another letter to his ruler, the Ambassador wrote that Galileo "gets hotly excited about these views of his, and has an extremely passionate temper, with little patience and prudence to keep it in control."[18] Galileo was doing everything in his power to provoke an official decision.

The Dominicans and Jesuits were greatly disturbed by the way in which Galileo carried on his campaign. Instead of offering proof for the Copernican theory, he put forth witty and sarcastic attacks on Ptolemy and Aristotle, trying to win the decision by forfeit. But the Dominicans had even stronger reasons to oppose him. They were the appointed defenders of the Faith. As Broderick notes, "It may very well have seemed to them that Galileo, with his private interpretation of the Scriptures, was just such a menace as had ruined the Church in Germany and England."[19]

Guicciardini records how the official action finally, and in the light of Galileo's conduct, inevitably, was begun:

> As we did not appear to him, Galileo, to be sufficiently enthusiastic about his plans and wishes, after having bothered and tired several Cardinals with his story, he concentrated on Cardinal Orsini . . , and on Wednesday last, Orsini spoke to the Pope in a consistory on his behalf. The Pope told the Cardinal that it would be a good thing if he could persuade Galileo to abandon his opinion. Orsini made some answer or other . . , whereupon the Pope told him that the question had been referred to the Cardinals of the Holy Office . . .[20]

On February 19, 1616, two propositions, extracted from the *Letters on the Sun Spots,* were sent to the *Qualificatores,* a committee of eleven theological consultors who were advisers but not judges of the Holy Office. They examined the passages in question. Five days later, they submitted their report to the Cardinals of the Holy Office. It ran as follows:

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[17]Letter of Guicciardini to the Grand Duke. *Opere di Galileo* (Ediz. Naz.), XII, p. 259; quoted by Ludwig Pastor, *The History of The Popes,* (St. Louis: Herder Co., 1937), p. 294.

[18]*Opere di Galileo* (Ediz. Naz.), XII, p. 242; quoted by Broderick, *op. cit.,* p. 365.

[19]*Ibid.,* p. 366.

[20]*Opere di Galileo* (Ediz. Naz.), XII, p. 242; quoted by Broderick, *op. cit.,* p. 365.

First Proposition: The sun is the center of the world and altogether devoid of local motion.

Decision: All were agreed that this proposition was foolish and absurd philosophically, and formally heretical, inasmuch as it expressly contradicts the doctrines of Holy Scripture in many places, both according to their literal meaning, and according to the common exposition and meaning of the holy Fathers and learned theologians.

Second Proposition: The earth is not the center of the world nor immovable, but moves as a whole, and also with a diurnal motion.

Decision: All were agreed that this proposition merited the same censure in philosophy, and that, from a theological standpoint, it was at least erroneous in the faith.[21]

It will be noted that the *Qualificatores* called the first proposition, "formally heretical, inasmuch as it expressly contradicts the doctrines of Holy Scripture in many places . . ." This was an unfortunate opinion and it has always been open to justifiable criticism. Even if we can no longer condone their opinion, we can still understand why they held it. They were fully aware that Holy Scripture cannot assert what is false. Yet the proposition before them stated something which was unproven, and which, taken as an asserted fact, seemed to contradict the Scriptures. Operating on the principle that Scriptural passages are to be taken in their literal sense unless there are good reasons to the contrary, and seeing that Galileo had presented no conclusive proof which could back up his statements, the *Qualificatores* saw no alternative to calling the first proposition, "formally heretical," and the second, "erroneous in the faith."

But subsequent history has shown that the words "formally heretical" were too strong and too definitive. They did not take into account that when Scripture speaks of nature, it speaks allegorically. As to the effect of this opinion on the infallibility of the Church, Koestler points out that:

> The Qualifiers' opinion became known to the public only in 1633, when Galileo forced a second showdown, and the opinion was quoted in the verdict of his trial. Even then, it remained a judicial opinion, without endorsement by Papal authority, and therefore not binding on members of the Church. Accordingly, the immobility of the earth never became an article of faith, nor the immobility of the sun a heresy.[22]

On the following day, February 25, as the document of the proceedings tells us:

> The Lord Cardinal Mellini notified the Reverend Fathers, the Assessor, and the Commissary of the Holy Office that the censure passed by the

[21]In Favaro's *Galileo e l'Inquisizione*, p. 61; quoted by Broderick, p. 366.

[22]A. Koestler, *op. cit*, p. 457. For a complete treatment of the question of infallibility, cf. W. G. Ward, "The Case of Galileo," *Dublin Review*, LVII (1865), 376-425.

> theologians upon the propositions of Galileo . . . had been reported; and His Holiness has directed the Lord Cardinal Bellarmine to summon before him the said Galileo and admonish him to abandon the said opinion; and, in case of his refusal to obey, that the Commissary is to enjoin on him, before a notary and witnesses, a command to abstain altogether from teaching and defending this opinion and doctrine and even from discussing it; and, if he does not acquiesce therein, that he is to be imprisoned.[23]

For the next day, February 26, the following report is found in the files of the Holy Office:

> Galileo was admonished by the Cardinal of the error of the aforesaid opinion and that he should abandon it; and immediately thereafter *successive ac incontinenti* . . . the said Commissary did enjoin upon the said Galileo . . . and did order him . . . to relinquish altogether the opinion in question . . . nor henceforth to hold, teach, or defend it in any way, either orally or in writing. The said Galileo acquiesced in this ruling and promised to obey it.[24]

A number of historians, including Wohlwill and Santillana, have tried to show that this report of the 26th is spurious and that it was inserted into the file, possibly as late as 1633, in order to ensnare Galileo in a pre-conceived trap. But Koestler, who considers all the arguments both pro and con, reaches the conclusion that the document is neither spurious nor a *male fide* fabrication.[25] At any rate, with Galileo's promise to comply with the ruling, the case was closed before the Holy Office.

It is obvious from the lenient treatment which he received from the Holy Office, and the fact that none of his writings were listed on the March 5th Decree of the Congregation of the Index, that there was a strong desire on the part of the Church officials to spare Galileo as much as possible.

The Decree of the Congregation of the Index was made public on March 5, 1616. It condemned the book by the Carmelite Foscarini, which book, it will be recalled, had given Bellarmine occasion to write Foscarini in 1615. It also suspended the *De Revolutionibus Orbium Caelestium* of Copernicus, until it was corrected and made more hypothetical. The Decree ended by prohibiting and condemning all books in which the heliocentric system was taught, since that doctrine was "false and altogether contrary to the Holy Scripture."[26]

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[23]Quoted by Santillana, *op. cit.*, p. 122.
[24]In Favaro's *Galileo e l'Inquisizione*, p. 62; quoted by Broderick, *op. cit.*, p. 369.
[25]A. Koestler, *op. cit.*, fn. 52a, p. 598-9.
[26]From the Decree of the Index; quoted by Santillana, *op. cit.*, p. 123.

Galileo remained in Rome for three months after the case had ended. During this time a rumor was started that he had been made to abjure his opinion and had been given a penance to perform. He asked Cardinal Bellarmine to give him a statement in writing with which he could defend himself. The Cardinal gave him a letter which testified that he had not been made to abjure, nor had a penance been imposed upon him. All that had happened, the letter stated, was that:

> the declaration was intimated to him, wherein it is declared that the doctrine attributed to Copernicus that the earth moves round the sun and that the sun is in the center of the universe and does not move from east to west, is contrary to the Holy Scriptures, and therefore cannot be defended or held.[27]

For several years after his return to Florence, Galileo led a relatively quiet existence. In 1619, he backed his disciple Mario Guiducci in a controversy with the Jesuit Father Grassi, over the latter's explanation of comets. The only thing which Galileo accomplished by supporting Guiducci was a further alienation of the Jesuits.

In August, 1623, Cardinal Maffeo Barberini was elected Pope and took the name Urban VIII. He succeeded Gregory XV, who had a short reign of two years. This was the Cardinal Barberini who had befriended Galileo and had even opposed the decision of the Holy Office in 1616. Galileo responded to the news of the Papal election, by publishing a sarcastic attack on Father Grassi entitled, *Il Saggiatore.* Pope Urban allowed this book to be dedicated to him, and his coat of arms appeared on the title page. Galileo began to think that he could talk the Pope into revoking the censure of 1616. He decided to go to Rome. Full of expectations, he arrived in that city toward the end of April, 1624.

Once again, he was received with the greatest honors. Pope Urban not only gave him a yearly pension, two medals of gold and silver, a beautiful painting, a letter to Ferdinand II, the new Grand Duke,[28] recommending Galileo for further patronage; but he also granted him six long audiences. Though we do not know exactly what was said in these conversations, we do know that Urban was adamant in his refusal to change the decision of 1616.

Still, Galileo was encouraged by his talks with the Pope. Koestler writes that, "Galileo's *impression* derived from the six long audiences

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[27]In Favaro's *Galileo e l'Inquisizione,* p. 68; quoted by Broderick, *op. cit.,* p. 372.

[28]Ferdinand was the successor of Cosimo II, who died in 1620.

was that he could write pretty well anything he pleased in support of Copernicus, so long as he avoided the theological arguments and stuck to speaking *ex hypothesi.*"[29] Koestler goes on to say that Urban himself suggested a way for Galileo to "get around the difficulty of arguing in favor of the hypothesis without asserting it to be true."[30] Urban's suggestion was that even if you assume that a hypothesis explains the appearances, this does not mean that it is true. God is all powerful and may have used completely different means to produce the effects than those implied by the hypothesis. From this, Galileo derived the idea of using a careful clause of submission in his future writings, though the writings themselves would be real defenses of the Copernican doctrine. He tested this idea of a submission clause in his *Letter to Ingoli,* in which he defended the Copernican theory in scarcely-veiled terms of established fact. Though it was never published, it was read by many high Church officials without objection. The submission gimmick had worked.

Encouraged by this success, Galileo spent a good part of the next six years, from 1624-1630, laboring on what he thought would be final and conclusive proof that the Copernican system was a fact. He wrote, in 1629, "I have taken up work again on the Dialogue of the Ebb and Flow of the Sea . . . *It will provide, I trust, a most ample confirmation of the Copernican hypothesis.*"[31] This Dialogue was later to be entitled the *Dialogue on the Great World Systems.* There can be no doubt as to what Galileo's intention was in writing it.

The main argument of the *Dialogue* was based on an erroneous theory of the tides; a theory which he thought would necessitate the motion of the earth. He had convinced himself that this was the long-awaited proof. His judgment was at least partially blinded by the praise with which his friends greeted his every assertion. But not only was his theory of the tides incorrect, even the other important argument of the *Dialogue,* that of the movement of the sunspots, was blatantly undemonstrative. Nevertheless, in May, 1630, convinced that he now had proof and hoping somehow to get permission to print his *Dialogue,* Galileo came to Rome.

Niccolo Riccardi of the Order of Preachers was the Master of the Sacred Palace, and was thus entrusted with the task of approving or

[29]A. Koestler, *op. cit.,* p. 472. Emphasis mine.
[30]*Ibid.*
[31]"Letter of Galileo to Elia Diodati;" quoted by Santillana, *op. cit.,* p. 73. Emphasis mine.

forbidding the publication of books in Rome. When he had read the *Dialogue,* he hesitated about giving an *Imprimatur.* He saw that Galileo's treatment of Copernicus was more than hypothetical. Riccardi turned the work over to his assistant, Father Raphael Visconti, for examination. Visconti made a few changes; but Riccardi was still not satisfied. Galileo, operating through Niccolini, Riccardi's cousin-in-law, and now the Florentine Ambassador in Rome, began to exert pressure on the worried Master of the Sacred Palace. Riccardi finally decided that a few more passages needed changing; but that it could go to press, providing the proofs were submitted to him for further examination. He also insisted that the Preface and conclusion be reworded so as to leave no doubt that this was merely a hypothetical treatment of the subject. When Galileo agreed to these stipulations, Riccardi granted the *Imprimatur* for Rome.

At the end of June, Galileo went back to Florence to re-write the Preface and conclusion. While in Florence, he received a letter from his friend Castelli, urging him "for many most weighty reasons . . . to have the work printed at Florence, and as soon as possible."[32] Galileo, perceiving that there was trouble in Rome, wrote to Niccolini and asked him to seek permission from Riccardi to publish the *Dialogue* in Florence. Riccardi at first refused, but once again Niccolini was able to persuade him to grant his request. The Master of the Sacred Palace laid down one condition, however; a copy with the desired corrections had to be sent to him for approval. Niccolini pleaded that this would be impossible. The plague was beginning to spread into central Italy and communications would be too difficult to be sending proofs back and forth from Florence to Rome. Riccardi finally agreed to turn the body of the text over to Giacinto Stefani, a Consultor of the Inquisition in Florence, while he would keep the Preface and conclusion himself. He sent Stefani a list of the desired corrections and qualifications. Stefani read the work and changed only a few words. Riccardi then asked Clement Egidii, the Inquisitor of Florence, to make sure that the *Dialogue* did not go beyond the hypothetical. Egidii also approved the book. It is more than possible that both Stefani and Egidii did not worry much about granting an Imprimatur for its publication in Florence. After all, Riccardi had himself approved it in Rome.

On July 19, 1631, Niccolini wrung the Preface and conclusion from the hands of the fretting Riccardi, and the *Dialogue* went to press.

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[32]Quoted by Santillana, *op. cit.,* p. 184.

The publication of the *Dialogue* in 1632, caused a storm. The Pope, according to a letter from the Florentine Ambassador to the Grand Duke, was furious at the cunning methods Galileo had used to extract the *Imprimatur* for this intended defense of Copernicanism. Riccardi, at the Pope's command, ordered the printer in Florence to cease publication of the *Dialogue.*

Urban was further aroused when he was told that some of his own ideas, including the one to which we have already referred, were put into the mouth of the stupid Aristotelian, Simplicio, one of the characters in the *Dialogue.* The Pope appointed a special commission to make a report on the book. A month later, they submitted their findings to him. There were two main charges against Galileo. First, Galileo had treated the Copernican theory, not as an hypothesis, but as an absolute fact. Secondly, he had been deceitfully quiet about the secret injunction given him in 1616, not to hold, teach, or defend the Copernican theory in any way, either verbally or in writing.

This last charge came as a surprise even to the Pope. It will be remembered that the injunction of February 26, 1616, was served to him by the Commissary General in the presence of Cardinal Bellarmine and a few others. But it was never made public that such an injunction had been given. The special commission found it in the files of the Holy Office. It is obvious that neither the Pope nor Riccardi knew of it, for if they had, the *Dialogue* would never have been printed. On September 23, 1632, Galileo was summoned to Rome.

After months of delaying, Galileo finally arrived in the Holy City on February 13, 1633. He was received with kindness and comfortably lodged. The trial began on April 12th. The Commissary General of the Holy Office questioned Galileo about the events of 1616. When asked about the injunction imposed upon him not to hold, teach or defend Copernicus in any way, he answered that he did not remember the words, "not to teach in any way," but that they might have been said. He pointed out that the letter given him by Bellarmine in 1616, said only that he was not to hold or defend Copernicanism. He then proceeded to deny that he had maintained the heliocentric system in his *Dialogue.* Rather, he claimed, he had demonstrated Copernicus' arguments to be weak and inconclusive. When quotations were read from the *Dialogue* which showed beyond a doubt that he had defended Copernicanism as a fact, he finally admitted that he had given more force to the Copernican theory than it deserved, but he pleaded that he had done

so out of vainglorious ambition. This is in quite obvious contradiction to his avowed intention in writing the book. In his own words, he intended it to be "a most ample confirmation of the Copernican hypothesis."

Galileo's disobedience to the 1616 injunction was plain. His disobedience to the Decree of the Index, which stated that the heliocentric theory was contrary to Holy Scripture, and therefore not to be defended or held, was equally as obvious. All that remained now was to question him about his intention. On June 21, he was asked whether he had held the condemned theory as true. He replied that he had not held it since 1616, when it had been declared contrary to Scripture. Again he was confronted with the contents of his book, and was threatened with torture if he did not tell the truth. Again he denied having held the theory. He was well aware that a man of his age was exempt by law from torture. There was nothing left to do but adjourn and pass sentence.

On Wednesday, June 22, 1633, the sentence was pronounced. It began with a review of all the events leading up to the present trial. It talked of the 1616 injunction and the Decree of the Index. It spoke of the arguments in the *Dialogue* which attempted to prove Copernicanism, even though that opinion had been declared contrary to Holy Scripture. It told of his patent disobedience in the whole matter. Galileo was then declared to be "vehemently suspected of heresy,"[33] for having believed and held the doctrine of Copernicus. He was ordered to abjure it, was sentenced to the formal prison of the Holy Office, and was given a penance to recite the Penitential Psalms once a week for three years.

The prison sentence was never imposed. Galileo was released into the custody of Niccolini, the Florentine Ambassador. The condemnation of Galileo was now complete.

The condemnation has been called, "the greatest scandal in Christendom," and perhaps it merits that title. It has been used to argue against the infallibility of the Church; to contend that the Church is a vicious enemy of Science. These contentions can easily be refuted. But the refutations are not as attractive as are the accusations to that part of the human temperament which more readily believes scandal than truth. Nevertheless, it must be admitted that the condemnation was an unfortunate conflict, the entire circumstances of which, perhaps we will never know.

Jerome Langford, O.P.

[33]From the Sentence of Galileo. Quoted by Santillana, *op. cit.*, p. 310.

GEORGE SANTAYANA: POET OF DISILLUSION

Disillusion—the Blackness of the Pit, loveless, hopeless. What greater tragedy can seize the heart than to find that one is encompassed by disillusion? Rejection, misery, agony: these are as nothing compared to it. For disillusion means the loss of all that one imagines to be great: to love, perhaps with a fierce love, to dream magnificent dreams, to hope unutterable hopes, only to find nothingness; to walk in the radiance of hoped-for absolutes and then to miss one's footing and slip into the bottomless pit, watching all the while the brillance of one's dreams grow dimmer and dimmer.

George Santayana lost his footing early in life. He faced a future of nothingness and surrendered to its tragic embrace, trying all the while to express his emptiness, to give words to the blackness, to cling to the one reality which remained for him: beauty; seeking truth in beauty while both eluded his grasp.

Moments there are in life when one must be silent: moments, snatched from the stream of existence, when one faces the transcendentals, the absolutes. After the moment has passed some will try to express what they have seen there; many fail, a few succeed. The successful ones are the poets, the metaphysicians, and the mystics. All men recognize their success and honor them as geniuses. Santayana was a poet, a genius, a man who expressed what he saw in his moments of transcendence, moments of beauty experienced. But unlike his fellow geniuses he was a failure. Hence he was a paradox: a successful failure; and like all paradoxes he teaches us. His life and his thought hold a lesson for us, the youth of the twentieth-century.

George (or Jorg, as he was christened) Santayana was born in Madrid on December 16, 1863: the offspring of the second marriage of Josefina Borras and the first marriage of Don Augustin Ruiz de Santayana.[1] Previously Josefina had been married to George Sturgis, a Bostonian whom she had met in Manilla. His early death left Josefina with three children whom she had promised to raise in Boston. Mindful of this she had resided in Boston several years, but then embarked for her native Spain where she met Don Augustin. However it was not long after George's birth that she sailed again for New England, leaving the child in Spain.

When George was about eight or nine his father brought him to Boston, left him with his mother and returned to Spain. And so it came about that this Spanish-born Roman Catholic began his career in America among Unitarians. For the Sturgis family was Unitarian, and despite the efforts of George's oldest step-sister to raise him a Catholic, Josefina heeded the wishes of the Sturgises and reared him in the Unitarian Church. (Josefina was rather indifferent about the matter of religion: an affectation quite popular in her milieu, although she herself had been baptized a Catholic.)

It was not until years later when George had most successfully graduated from Boston Latin School and enrolled as an undergraduate at Harvard that the religious and emotional conflict—the result of these dissonant clashes of his environment—was resolved; and the resolution was a tragic one: life, as he later expressed it, was for him worthless if religion was not true. The choice that faced him, as he, then a young man in his teens, saw it, was the choice between Catholicism and complete disillusion. "I never feared disillusion, and I have chosen it," said he.[2]

Despite this espousal of disillusion Santayana did not despair. He faced the void before him staunchly and went on to a brilliant career at Harvard, first as a student and later as a professor of philosophy, seeking all the while a way out of disillusion. In 1907 he was awarded the

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[1]For the life of Santayana see
—G. Santayana, "A Brief History of My Opinions", in *Contemporary American Philosophy*, G. P. Adams, Ed., (New York: Macmillan, 1930) Vol. II, pp. 239-257.
—R. Butler, O.P., *The Mind of Santayana*, (Chicago: Henry Regnery, 1955).
—V. E. Smith, *Idea Men of Today*, (Milwaukee: Bruce 1950) pp. 55-78.

[2]G. Santayana, "A General Confession" in *The Philosophy of Santayana*, Paul A. Schlipp, Ed., *The Library of Living Philosophers*, Vol. II, (Chicago: Northwestern University, 1940).

University's chair of Philosophy, a position he held until his resignation in 1912.

During these five years he travelled many times to his native Europe in visits, vacations and study. It was no surprise that after his resignation from Harvard he sailed once more for Europe, and except for one very brief visit never returned again to America. On September 26, 1952, at the age of 88, George Santayana died in Rome: the wanderer had ended his journey, but his goal was unattained.

Santayana was not what we would call an active man. His biography, except for the publication of his works, contains few dates, few great events. Yet he was a great man, a man who has left a lasting mark on the world; this mark was his thought, embodied in his philosophy. Santayana was a thoughtful man, a contemplative. Because of this the most important aspect of his life is his thought. We turn now from the man to the ideas, in quest of the lesson he teaches.[3]

While at Harvard Santayana was taught by James and Royce, was contemporary with Dewey, and knew Bergson personally: four great names in contemporary philosophy. But he claimed to be a follower of none. He denounced German Idealism, Kantian Transcendentalism and Cartesian Scepticism (Descartes was not enough of a sceptic for Santayana: he stopped with doubt, with the Ego, with the principle of sufficient reason "for which," said Santayana, "there is no reason at all." He claimed for himself true scepticism, outdoing the sceptics in their own field.)

As to the Ancients, Santayana was most familiar with Lucretius. The naturalism of the ancient Epicurean materialist appealed to the man who had rejected the supernatural in his choice of disillusion. In his undergraduate days at Harvard he read almost continuously from the Roman poet. Besides Lucretius he was conversant with several of the Greeks, notably Plato and Aristotle, whose metaphysics he rejected, although he chose from Aristotle thoughts at random, terminology (which he misused) and political ideas apt to support his own theses.

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[3]On the philosophy of Santayana, besides his own works, cf.
—R. Butler, O.P., *op. cit.*
—W. Durant, *The Story of Philosophy* (New York: Pocket Books, 1956) pp. 487-508.
—V. E. Smith, *op. cit.*
—M. White, *The Age of Analysis,* (New York: George Braziller, 1957) pp. 53 ff.

Thus while Santayana chose none of these men as his master, he selected from each that which appealed to him, that which was consonant with his views of reality. He was, in short, an eclectic; and in following the road of eclecticism he, knowingly or unknowingly, conformed to the custom of his contemporaries. Today's philosophers seek for the truth as honestly, one hopes, as the philosophers of ancient Greece and Christian scholasticism. But there is so much to look into: in which is the truth to be had? Since there is a grain of truth in every system of thought, no matter how basically wrong it may be, the dedicated seeker of truth will grasp it when he finds it; and, having no method of analysis and synthesis, having no school, no basic principles to guide him, he will wander on, gathering from here, from there, and trying to piece together whatever may seem sound, but all the while wandering further and further into the labyrinthine roads of error and deception. For Descartes set the example: look within; and can I be blamed if I, the modern measure of reality, follow my judgment, erroneous though it may be?

From this method of eclecticism Santayana proceeded to build a system of ideas. In his work, *The Realms of Being* (1927) he put forth his doctrine of "essences." Following through his observations on Descartes, he adopted the sceptical method and pushed it to what he considered to be its extremes. He doubted all external reality, looked within, and concluded that there remains nothing secure in man's knowledge except the "essence": the only thing of which we are sure, and about which we can say nothing. The essence just "be's"; the philosopher can do no more than look at it. It does not have existence, its principle is identity, it is exhausted by its definition (which Santayana never seems to have given precisely). The essence is individual, universal, infinite, unlimited, eternal, changeless, outside of time. This, the cardinal point in his system, is never made clear, suggesting, perhaps, an ineffableness which Santayana could never quite voice.[4] However, we can gather some idea of it if we look at the other side of being; for outside of the essence anything man thinks, says, or does springs from "animal faith": the instinct of mankind which leads him to claim existence.

Existence is the first thing which can be said or known after essence. But once we say that essence has existence it is removed from its es-

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[4]Cf. G. Santayana, "Transcendental Absolutism" in *Twentieth Century Philosophy*, D. D. Runes, ED., (New York: Philosophical Library, 1943), p. 316.

sential state and becomes the object of animal faith. Essence is known in the solipsism of the present moment, but Santayana says he is not a solipsist; essence would seem to be an idea, in the realm of the idea, but Santayana says that he is not an idealist.

The very method of arriving at the notion of essence, however, is idealistic; what could the essence be other than some product of the mind (although it is both abstracted and not abstracted from matter)? Existence and animal faith, moreover, are known by a dogmatic postulation, a transcendental move into reality—which Santayana never formally denied. All would point to an idealism, despite Santayana's denial.

But animal faith is a true belief which cannot be doubted. The real world must exist, so Santayana built up a system of thought about the world which is basically materialistic, founded on the supposition that everything, including the mind, comes from matter. Matter is the mother of us all, and the world is but a series of "tensions" within matter. Matter has patterns, called *tropes*, which organized the world by habits and customs. Out of nature emerged spirit, a power which dominates its own causes and penetrates the realm of essence.

Beneath the spirit, and above matter, stands the psyche: the governing principles of vegetative functions in the world. By the psyche it would appear that Santayana attempts somehow (mostly by the use of the word) to bridge the gap between his dualistic worlds of matter and essence. The psyche struggles to get ahead in life, while the spirit wishes to relax and intuit its object, essences.[5]

Thus we have seen in Santayana an idealism, a transcendentalism, a materialism and a dualism; none of them ever resolved with each other. There is no complete explanation of how essences arise when all is from matter; no explanation of the interplay between matter, psyche, and spirit; no explanation of how we can know essences when we live only by animal faith. Taken separately, each of Santayana's various philosophical facets might be plausible as theories; but when combined they become hopelessly contradictory, deep, and puzzling.

The best known and perhaps the most refreshing aspect of Santayana is seen in his aesthetical values. It is here that the poet emerges. Animal life, claims Santayana, turns to true contemplation for satisfaction in life.

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[5]For an interesting explanation of the "becoming" from matter to essence, cf. the entire essay "Transcendental Absolutism", *ibid.*

It is because of, and through art that man retains rationality. It is through aesthetic appreciation that the non-metaphysician may enter the realm of intuited essence, for essence can be grasped in beautiful works of art. Man overcomes the evolutions of matter by becoming a creator himself in art; it is in art that man's highest hopes are achieved. Art is highest among man's aspirations because it is natural to him; it arises out of instinct. Thus blind animal faith leads man on to escape in contemplation. Escape from what? From animality. For contemplation is not conceived in a pessimistic fashion, but it is seen as providing man with the way to rationality. This escape is the natural result of man's animality, lifts him from his animality, and makes him rational.[6]

The philosophy of George Santayana is most perplexing, most conflicting. He travels over many roads, follows none to its end, and denies having chosen any. His ideas are difficult to grasp: not so much because of their elusiveness, but because of his failure, or, perhaps, inability, to state them clearly. He presents a world which has reality only in our belief in its existence, and which is foreign to our everyday experience. Why?

Some will answer: Santayana was a poet, with all the gifts and failings of the poetic personality. His insight was acute. He perceived the depths of reality in flashes. His was not the deliberate, disciplined road of demonstration and logic. His was the sanguine road of rare imagination. His language was not the syllogism, but the poem. We must understand him as a poet.

But if this is so, why did he attempt to philosophize? Why did he invade a realm foreign to his genius? Why were not his works written in the style of the poem, rather than in prose? No. While it is true that Santayana was a poet, it is also true that he was a philosopher. It is in his philosophical self that we must find our answer.

We have already seen the answer. We have seen Santayana's eclecticism; we have seen his dissatisfaction with Descartes' hesitation; we have seen his espousal of disillusion. Herein lies the lesson. George Santayana is an outstanding example of the philosophical confusion of our times. Eclecticism, skepticism: these are the fashion of today. It was the tenet of Santayana himself that only the history of philosophy, not philosophy itself, should be taught in a university. He was not alone

[6]Cf. V. E. Smith, *op. cit.*, pp. 58-61.

in that opinion. The system of having no system prevails; a tradition of overthrowing tradition is being established. Lacking logic and principles, the modern philosopher has little on which to build. His own mind is the foundation of his philosophy. How much of real truth can a man be expected to grasp in one lifetime, even though it may span a length of eighty-eight years as did the life of Santayana? The Greeks labored for over six centuries before they produced a true picture of reality, while Christianity spent another thirteen centuries in christianising philosophy. But today's philosopher hopes to begin with his own experience only, and explain all of reality from there. As long as modern man continues to set himself as the principle of thought, as the measure of reality, he will never attain the truth he seeks. True philosophy is the result of a heritage, a system built by the best minds and passed down in a pure and unchanging tradition.

Because man is a social animal, he needs others to teach him. While the teacher's primary function is to bring knowledge to birth in the mind of his pupil—leading him on until the truth known is his, deduced from his mind—still one must remember that the pupil could make little progress in achieving truth, in discovering new ideas and insights (new, at least, to him) if he did not have presented to him ideas elaborated by successive generations. To reject the labor, thought, and genius of centuries is to espouse confusion, to choose disillusion.

Descartes was the first to reject completely the tradition handed to him, to seek the answers to the riddles of reality in his own mind and genius. Succeeding generations have followed his example. No less guilty is Santayana who was not afraid of disillusion. Santayana's entire philosophical thought is, in fact, the record of a mind seeking for truth, but seeking in vain. In his choice of disillusion he shut himself off from every hope of attaining what he sought. He studied reality: the same reality that surrounds each of us; with brilliant insight he glimpsed flashes of truth throughout the manifold facets of that reality—in man, in nature, in spirit, in art. For reality is true, conformed to its Creator, and to lift the veil from any corner of it is to look at truth itself. But Santayana could not put the pieces together, could not gather the flashes of truth into one ray, could not proceed from one truth to another; because he had no logic, no principles, no tradition.

Born into a world lost in an intellectual chaos, George Santayana became one of the famous intellects in that chaos. He was a gifted man:

a genius who could see into reality and express what he saw; but he was a failure, because he could not put together the reality he was privileged to perceive. That he never found what he sought was not entirely his own fault. His predecessors both in kin and thought must share the guilt. As long as man sets himself up as the creator of reality there will be men like George Santayana: men who seek truth in vain, failing geniuses, poets of disillusion.

Benjamin Russell, O.P.

THE BEE: INSTINCT OR INTELLIGENCE

> This series of experiments [of von Fresch on the bees] constitutes a most beautiful example of what the human mind can accomplish by tireless effort on a very high level of intelligence. But I would ask you to give some thought to the mind of the bees also. I have no doubt that some will attempt to "explain" the performance of the bees as a result of reflexes and instincts. Such attempts will certainly contribute to our understanding, but for my part I find it difficult to assume that such perfection and flexibility in behavior can be reached without some kind of mental processes—I do not venture to proclaim them as "thoughts"—going on in the small heads of the bees . . .[1]

JUST *What* IS "GOING ON IN THE SMALL HEADS of the bees"—and in the ants herding their flocks of aphid cows and in the beaver building his dam—is a barrier which for a long time has held man back from a more complete view of the animal world. Then, too, it has darkened a more perfect understanding of man who is a part of the animal kingdom although the unique part. Western civilization is based upon the conviction that man is unique among animals. To prove this singularity it is not enough to discourse on humanity alone, but we must be able to show that the rest of the animal world does not have what man possesses, intelligence.

We might come upon a bee in the center of a flower pushing golden pollen into small sacks on his legs. We think, "Instinct!" Instinct is the common term used for the complex and simple, amazing and subtle activities of animals. It is derived from the Latin word, *instinquo*, which means an impetus, a stimulus. However, every psychologist and philoso-

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[1]August Krogh, "The Language of the Bees", *Scientific American* (August 1948).

pher hesitates before he expounds upon instinct. In contemporary psychology this topic is a very confused one as the following array of opinions shows:

> Instinct is an innate propensity in organized beings [especially in lower animals] varying with the species and manifesting itself in acts which appear to be rational, but are performed without conscious design or intentional adaptation of means to end.[2]
>
> [Instinct is] behavior other than reflex, in which innate factors play a predominant part . . . behavior in which the motor pattern is variable but with an end result that is predictable from a knowledge of the species without knowing the history of the individual animal . . . 'Instinct' [the name] however is less useful . . . It suggests a psychical agent in behavior just as intelligence, insight, or drive may.[3]
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> The most obvious difference [between instinct and intelligence] is that the instinctive action is effective the very first time it is performed . . . Instinctive actions . . . are inheritable adaptations of behavior which are bound up with—indeed are the same as—inheritable adaptations of structure.[4]
>
> Certain patterns of behavior are commonly referred to as instinctive. They are thought to differ in various ways from other reactions that are called learned. As a matter of fact the widespread practice of postulating a general category of instincts, as discriminable from other types of behavior, is of dubious validity . . . The category is artificial and bears little relation to the observed facts. A wide variety of responses are grouped together under the heading of instinct, not because they share any positive characteristics, but because they have been arbitrarily excluded from a rather narrowly conceived category called learned behavior . . .[5]
>
> All such activities [instinctive], when viewed externally appear as definitely psychochemical and mechanical; this is why the mechanist or the behaviorist often seems to have made out such a strong case. If mechanism is sufficient why drag in the psychic factor?[6]

Here there is no clear idea of what constitutes an instinctive action or what is its principle; some of the opinions contradict each other.

Indisputably, the marvelous abilities of the animal world and the fact of man's unique cognitive position are problems. So, our intention here *is* to "explain" instinct, but not as a reflex action, not as some vague etherial drive, and not as a rational activity. To begin our inventive examination a tentative definition of instinct might be: Inherited patterned ability

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[2]Oxford English Dictionary cited in T. V. Moore, *Driving Forces of Human Nature* (New York: Grune and Stratton, 1948), p. 231.

[3]Hebb, *Organization of Behavior,* (New York: Wiley, 1949), p. 166.

[4]F. A. Beach, "Instinctive Behavior: Reproductive Activities," in *Handbook of Experimental Psychology,* ed. by S. Stevens (New York: Wiley, 1951), p. 387.

[5]*Ibid.*

[6]A. Lillie, *General Biology and Philosophy of Organism,* (Chicago: University Press, 1945), p. 172.

in an animal (unvarying in the species) to perform actions which for the most part would demand the exercise of reason if man performed them.

A critic of the use and even the existence of instinct noted that the term was "artificial and bears little relation to the observed facts precisely because it was not originally derived from these facts."[7] Another author explains this criticism: "Coming to psychology by way of philosophy, it [instinct] was never adequately divested of its abstract connotations before it was applied to concrete behavior."[8] To avoid this apparently common fault of studies which try to explain instinct we will base our study upon the concrete behavior of a highly instinctive member of the most instinctive group of animals, the honey bee.

> While it would be possible to cite comparable patterns of behavior at various levels of animal life, the fact that the most apt examples come from insect behavior should not be passed over. The type of neural organization of the insect as well as the brief life cycle renders instinctive behavior especially prominent.[9]

Instinctive behavior finds its highest form of development in the insect world.[10]

The bee is an excellent example of this type of link between the world of brutes and the world of intellectual man. The bee is an architectural master who constructs row after row of perfect hexagonal cells, hexagonal—to achieve the greatest enclosed space with the least material and the least labor. The bee, also, knows his chemistry and physics, for the slight tilt of the cell combined with the degree of viscosity in honey keeps the liquid in a cell open perpendicular to the ground. The bee possesses the unusual combination of talents which make it both artist and mathematician. Distances are determined from mathematically symbolic dances; degrees of angles are compared to determine direction. In this century man could do most of these things but only after training and with instruments. Yet, and this is the key which unlocks the door to a greater mystery, the bee can do this and much more in its tenth day of life—and without instruction. What "mental processes" are responsible for this?

INSTINCT AND THE BEE

What we are examining, then, is the ability of the bee (our representative of this power, instinct, found in most animals of some neuro-cerebral development) to perform many complex actions perfectly, to attain par-

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[7]Stevens (ed.) *op. cit.*, p. 427.
[8]T. J. Gannon, *op. cit.*, p. 218.
[9]*Ibid.*, pp. 218, 219.
[10]T. V. Moore, *op. cit.*, p. 231.

ticular goals, all of which are amazingly ordered to an ultimate end, the good of the community. As we mentioned, only a group of skilled men with instruments, mathematical tables, etc., could construct diverse sizes of perfectly hexagonal cells, could determine from a dancing insect the direction of recently discovered nectar. But, on the other hand, no man would be so lacking in a sense of values as to allow himself to be surrounded by fire only to protect his food—which the bees will often do. So the bee is a problem! It appears to be both superhuman in intelligence and yet subhuman. This paradox is the very solution to the problem. For Nature is infinitely above man, and the animal infinitely below. It is the combination of these two forces that dictate the actions of the bee.

What are these "mental processes," the causes of instinctive activities? To dissect the bee in a laboratory will not reveal a solution to our quest. It is from a consideration of the actions of the bee that we will discover what powers are dictating life in the hive.

> [Insect] behavior is instinctive, that is, it is not learned but is produced automatically at the appropriate time. We have no way of knowing what an insect is thinking nor whether it is conscious at all . . . and it is best to avoid as far as possible the language which implies that we do know. When we poke a wasp's nest with a stick, the angry wasps buzz out and attack us. We use the word, "angry," to avoid a clumsy circumlocution, but we should not suppose the wasp feels as we do . . . we cannot tell what the wasp feels, we can only see how it acts . . .[11]

. . . and from this, the bee's activity, deduce what are the principles of action. Dissection is of use only to explain why a power works in the way it does from the viewpoint of organic structure. We will never know the purpose of an organ unless we see it in action and note what is constant about it.

> We do actually think of bodily parts or organs as material structures quite apart from the consideration of their functions; It is the distinction between morphology and physiology . . . An animal for the morphologist is a complex of skeleton, muscles, nerves, glands, and so on; . . . For the physiologist it is "something happening;" but it is really both things and are not the structure and the functioning only two convenient, but arbitrary, aspects from which we consider the organism? We ought not to think of diaphragm and lungs apart from the movements of these organs . . .[12]

INSTINCT—FIVE CHARACTERISTICS

The definitions collected at the beginning of the paper reflect certain constant concepts. Instinct is said to be "innate propensity," "a deep-

[11] L. Richards, *Social Insects,* (Philadelphia: McDonald, 1953), p. 25.

[12] A. Johnstone, *Philosophy of Biology,* (Cambridge: University Press, 1914), p. 285 f.

seated tendency," "innate factor." Also it concerns "patterns of behavior," "behavior other than reflex," "inheritable adaptations of behavior." Instinctive acts are "performed without conscious design or intentional adaptation of means to end," "variable but with an end result that is predictable from a knowledge of the species."

Five characteristics are the most evident: 1) These instinctive actions proceed from the bee as a unit, and are constant and essentially invariable (although insignificant variable factors may be present); 2) They are not only simple, such as flying to a brilliant flower, but are complex; yet they are not reflex actions; 3) The ability to perform these activities is inherited by the bees; 4) The actions follow upon the reception of a sense stimulation; 5) This behavior achieves an end beneficial to the bee or to the hive, and each end is ordained to an ultimate one—the good of the species, the well-being of the hive. Still the bee does not know the end as end formally.

A glance at two psychologists' summaries of instinct corroborates, at least in part, the above selection.

> Instinctive behavior has a complex inherited pattern. The performance is normally perfect on the first occasion . . . The sequence of acts requires a particular condition of the animal, but it can be carried to completion only in a situation which also provides certain specific external stimuli.[13]

> Let us specify the important elements in instinctive behavior; 1) the organism acting as a unit, and using whatever powers it may be able to exert, strives to accomplish by persistent action an end valuable for the preservation of the life of the individual or for the propagation or preservation of the life of the species; 2) the individual accomplishes the end without any possibility of having learned by experience to envisage the end or acquire by practice the habits necessary to its accomplishment; 3) in carrying out this instinctive behavior, the individual acts as a unity, capable of co-ordinating its functions. In this way, the behavior differs from a series of reflex action, which involve mere mechanisms possessed by the organism.[14]

Now we must determine from an empirical treatment whether our selection of these five as dominent manifestations of instinct is valid. At the same time we will deduce from a careful examination of each what "kind of inherited drive—more complex, reliable, and goal-serving than impulse, and less dependant on experience than desire—is necessary to account for certain uniform activities of animals."[15]

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[13]L. Richards, *op. cit.*, p. 26.
[14]T. V. Moore, *op. cit.*, p. 233.
[15]Stevens (ed.) *op. cit.*, H. W. Nissen, "Phylogenetic Comparison," p. 358.

1) *The actions are determined and essentially invariable.* As a whole the pattern of life in the bee society is invariable from year to year, from century to century. Nothing new in their methods of cooling honey, of arranging the layers of wax cells has been discovered. Nor have there been any reports received of bees suffering lapses of memory or becoming careless in their methods. No more peaceful way of splitting the hive has been found than the creation of a new queen often leading to the violent death of one of their majesties. But apart from this vague though cogent argument we see that each individual action belongs in a category depending upon its goal. The number of these categories or groups of activities is not great: flying; gathering nectar, pollen, and propillus; returning, signalling, depositing; constructing; nursing; etc. The actions, though amazing, are finite in number. What is important is that each of these actions is essentially invariable. What do we mean by essentially invariable? A beekeeper in removing a tray of honey from the hive drops the tray accidentally. A number of bees fly at the keeper, and at the first contact with anything solid they implant their stingers. This relation between dropping the tray and the bees' attack on the strange, moving source of danger is constant. If the beekeeper methodically dropped the tray every few hours setting off the attack, when only a small percent of the bees remained with their queen (the rest killed in defending the hive), they would not act upon the idea, "We can't win." There may be accidental variables in this action—the strength of the stimulus from the drop of the tray, etc. These may make the attack stronger or weaker. Yet, the essence of the act, the implanting of the stinger on the apparent source of danger, is constant. Instinctive behavior is very stereotyped:

> The instinctive animal is wedded to a fixed routine of action, adapted to normal sequences, a routine which it may not be able to alter to fit the altered circumstances. In such cases, its actions, though goal-directed, become biologically inadequate or non-purposive. They do not contribute to a biological end.[16]

2) *Instinct is not only simple behavior but complex; yet it is not purely reflexive.* An example of simple activity is the young bee, two days old, sensing honey and pollen, and using it as its food without experience or education.

The following is perhaps the most complex action proceeding from the bee. If one bee finds a source of food, soon many, even several hundred,

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[16]L. Russell, *Directiveness of Organic Activity,* (Cambridge: University Press, 1946), p. 103.

appear streaming from the hive to this source. Evidently there was an announcement at home. How did this take place? The bee-discoverer delivers most of its sugar water to other bees. Then the worker begins to perform what von Frisch called the "round dance" or the second variety, the "wagging dance." It is clear from experimentation that the dance reports the existence and the location of food. The "round dance" means: "Fly out and look in the neighborhood of the hive." The "round dance" doesn't seem to signify direction but only that the source is near the hive. The type of flower is indicated by the odor and pollen on the bee's body. If the source of food is more than fifty to a hundred meters, the "round dance" gives way to the "wagging dance." In this second dance the bees run a short distance in a straight line while wagging the abdomen very rapidly from side to side; then they make a 180° turn to the left, run ahead, and turn in the same way to the right. They repeat this pattern over and over. The distance of the feeding place is indicated by the number of turns in a given time. Also, this second dance tells the direction of the newly discovered source. The direction of the bee's dance is so directed that the angle of the line of the dance meeting the line perpendicular to the earth, the line of the pull of gravity on the bee equals another angle made by one line from the sun to the hive and another from the hive to the food source. The bees determine from the angle formed inside the dark hive by the messenger which direction—right, left, or straight into the sun—it must travel. This is complex!

We must now eliminate a widely held solution to the problem of instinct. Words in discusions of instinct, such as *pattern, stimulus, response,* have led many to state as Herbert Spencer does that instinct is "a complex reflex-activity."[17]

The bees' activities such as the complex one just described cannot be explained as pure reflex phenomena. Reflex actions are "those adaptive processes of a living organism which solely but essentially depend upon the irritation of certain motory nerves."[18] Reflexes are behavior innately determined in the organic composition of the animal. They are controlled by a stimulation of a receptor and take the form of a consistent muscular activity.

Reflex is usually the action of a *part* of the animal. The bee's leg might slip off the edge of an empty wax cell and it is moved back. Instinct, however is the activity of the whole animal working as a unit for a goal.

[17]Herbert Spencer, *Principles of Psychology,* I, p. 451.

[18]W. Wasmann, *Instinct and Intelligence in the Animal Kingdom* (St. Louis: Herder, 1903), p. 8.

We noted that although instictive behavior is essentially unalterable, still some variability is possible especially when one means is thwarted. For instance, the bees recognize that foreign animals dead or alive are a menace to the community. If a beetle is found in the hive it will be driven out, or killed and towed out. A mouse receives the same onslaught. If an excess of stings kills the mouse, the bees are unable to rid the hive of its presence, so they simply encase it in a mausoleum of wax, and the hive is protected. The apprehension of the dead body as evil was the same in both the case of the beetle and the mouse; the end achieved was the same too, but the means varied. This would be impossible in reflex action which involves mere mechanisms possessed by the organism. Instinctive behavior is directed by the senses and does not follow the same chain of means in all circumstances. There is a variability and accommodation to the circumstances of the external world which is repugnant to reflexes.

The psychic element cannot be eliminated from instinct without destroying its essence. Reflex actions are specified by an irritation not always connected with stimulation in the external and internal senses. Consequently, there is not always a psychic element in reflex acts. Every sensation participates as a cause in producing instinctive activity. Instinctive behavior is constantly under sensory influence more or less direct. This direct control by the senses is demonstrated whenever an accident hinders the activity as in the accidental circumstances of the mouse being too heavy to be removed from the hive. Behavior often reverts to an earlier stage, and does not continue in the first predetermined sequence, but develops along a new line of instinct-guided activity.

Hebb offers another good distinction between reflex and instinct. Reflex is stimulus causing response. At times instinctive action follows upon a lack of nerve irritation. The very *absence* of something may stimulate the animal to act. This is a certain perceptual lack which gives rise to "a reaction to deficit." It would tax reflexology to explain the bee going out to receive more honey to complete a partially filled cell.

3) *The ability to perform such behavior is inherited yet it is passive unless stimulated by sensation.* Ability to act in the bee is not learned from other bees by instruction, nor is it acquired by imitation. (Both learning and imitation are factors in some animals' directive power, but only secondary ones.) We do not mean to exclude entirely imitation in the bee. Its impression of some action would tell it that this motion is beneficial or useful. The bee would associate this particular manner of

action with a similar action. But imitation only delays the search for the bee's power of directing his behavior, for what tells the bee that the action is suitable for remembrance, worth imitating? It is this power we are looking for in the bee. Bees' actions are dubious products of imitation. Two weeks after they have emerged from the comb they take an active part in the complex life in the hive. All their instincts are present.[19] An examination of the bee in its first ten days should show how ingrained these behavior patterns are from emergence, and what a total lack of education there is for such a complicated position in society. The first day the bee moves slowly; the next day it greedily eats honey out of unsealed cells. The following day the young worker bee already takes up its position as a sort of temporary nurse's aid looking after the wants of unsealed larva. These actions, are, of course, not erratic. But soon the bee may perform an action whose end is only mysteriously connected with its means. The bee takes the food furnished for the small larva and places it in an especially constructed cell; she places enough food to last not the usual brief period during which this special food is fed to the usual larvae, but enough to last the entire period of metamorphosis. This extra amount of special food will produce a queen in this cell, while the coarser food fed to the other larvae produces workers and drones. The bee obviously sees nothing of this process' causal connections at the age of six days.

Granted that the bee's behavior does not proceed from instruction, still we must not think that it proceeds from some innate, Kantian dictating power out of touch with the external world. This is untenable in the light of the examples of the workers responding to the signal-dance, and the construction of the tomb for the mouse. The various and complex actions of the bees follow upon a reception of a sense image by one of the external senses, or, less often, upon the expression of a sense image by the memory or imagination. "The releasing pattern for an instinctive act is usually a simple one . . . a form and/or color of a structure . . . or a certain act (movement pattern) of another animal."[20] Sensation is the spark that ignites instinct. Nothing is more obvious than that the bee's behavior is being influenced by the odor of incoming bees, the motions of their dances, by strange sounds as a bear disturbs the hive, or by the increasing temperature as a forest fire approaches. "The simplex type of

[19]When we say here that instinct is inherited we mean only that it is a part of the bee's sensori-motor make-up when the worker, queen, or drone emerges from the cell where it underwent metamorphosis.

[20]Stevens (ed.) *op. cit.*, Nissen, *op. cit.*, p. 356.

insect behavior is reaction to messages from the outside world—rays of the sun, other sex, colors, motions etc."[21] We might object, what about the initial flight in the early spring. Is not this venture just a spontaneous decision to wake from the winter's rest? No, it has been shown that the bees respond in spring to certain temperatures and to the change of the sun's position in the ecliptic.

When a stimulating sense form is present, the bee's action is subsequent. This is not to say that the bee is so reflexive that it rebounds from stimulus to stimulus never completing a job before beginning another. The completion of each job shows that instinct is not reflex. Yet action is begun instantly when the initial stimulus is strong and dominates the bee's organism. We notice none of the bee's actions resulting from procrastination. However if we look into a hive we notice what seems to be a certain lack of purposiveness. The workers seem to be moving very hurriedly, but they appear to be more or less just milling around. A worker bites at a comb, sticks wax there, runs on. There seems to be no order. Somehow order is drawn out of this myriad of actions, and this common appearance of the hive strengthens our argument that instinctive behavior patterns are released by sensation.

"In all animals there are innate predispositions for particular motor coordination, perceptions and sensory or perceptual motor sequences. . . To a certain extent this readiness may be attributed to the effector equipment of the organism but to a large extent it is a matter of inherited neural organization."[22] This is a summary of the two points we wished to make in this section. The "effector equipment" is the sensory organs; the "neural organization" is inherited.

5) *Instinctive behavior is completely directed to particular ends through usually employed though not necessarily constant means.*

The end of each activity is either the good of the bee as individual or the good of the community: there is an ultimate end to which all these actions contribute—the preservation of the hive, of the species. To prove this we notice first of all that in the hive there are no indifferent actions. Everything is ordered, beneficial, useful to the hive. Secondly, no bee sound in organism and free from violence commits an act which in the usual circumstances harms the society. We cannot say that each of the bee's actions are ordained to its personal well-being; the bee to

[21]Richards, *op. cit.*, p. 25.
[22]Stevens (ed.) *op. cit.*, Nissen, *op. cit.*, p. 356.

defend the hive ejects its stinger which disembowels the bee. But this is one of the facets of instinct, to be ordained beyond the good of the individual possessing the instinctive faculty, to be ordained to the good of the group here and now and in the future. The good of the species is preferred if the two interests clash.

With regard to the means attaining the end Russell points out five characteristics of this goal-directed activity: 1) When the goal is reached actions cease; 2) If the goal is not reached, action usually persists; 3) Such action may be varied by changing methods; 4) The same goal may be reached in different ways and from different beginnings; the end-state is more constant than the method of reaching it; 5) Goal-directed activity is limited by conditions, but is not determined by them.[23]

The following picture will illustrate these characteristics and the omnipresence of teleology in the bee. A bee filled with honey returns to the hive and deposits the nectar from a new food source. The sense memory image of something very good stimulates it to dance. The end of the dance is the notification of other workers of the existence, distance, and direction of the source. There are no arbitrary actions in this motion. The immediate end is attained when some bees are dispatched, and the dance stops. The dance will be performed at different groups until some bees leave to work. Here there is no variety of means to signal distance and direction, only the mathematics of the dance pattern, but we can see that the conditions of direction, distance, and quantity of food determine what these mathematics will be. Three goals are guides to this one activity: the dispatch of the workers, the gathering of the new found source of honey, the preservation of the hive now and in the future.

One of the conditions of goal-directed behavior was that the end was constant but the means may vary. This leaves the way open for learning. Can there be any learning in such highly instinctive animals as the bee, and if so, is it not learning that accounts for much of this behavior and not inherited instinct. "The bee . . . on first emerging from a completely dark hive flies off and is able to find the entrance to the hive again. This behavior indicates that the insect's learning starts out from the very first, at a mature level of efficiency."[24] Does it?

Learning means the acquiring of new facts or new skills. Since the bee is eminently a practical creature, whatever new facts or skills it

[23]Russell, *op. cit.*, p. 111.
[24]Hebb, *op cit.*, 113.

acquires after birth will be manifested in its actions. True, the bees in the hive learn the direction of food sources from symbolic dances; a bee on its first flight memorizes the picture coming in through its compound eye, and in flying home hunts for a visual image to correspond to the memorized one. Yet all these actions present early in the bee's career are *based upon* instinctive tendencies, tendencies, therefore, present from birth. What drives the bee to respond to the dances at all? What tells the bee that flowers contain something of value in their central parts? What dictates that such a "wagging dance" means food at a distance beyond a hundred meters? We are looking for this, the power *behind* whatever learning may be present, for learning itself is based upon some previous, instinctive disposition or faculty in the bee.

Learning may modify the means to an end; it may condition the organism so that previous stimulations no longer appear so strong or commanding. Still, all learning can be reduced to associations of the sense memory, and, as we said above, the existence and influence of this learning must be reduced to the instinctive power itself. "Such singlemindedness suggests that the complex associations made in a bee's learning and conveyed through its communicative dance are entirely automatic. Quite different messages traveling through the same nerve channels become associated with one another. In this way the angle of the dance on the comb and the tempo of the waggle come to indicate the direction and the distance of the food."[25] It has been shown that a honeybee does not notice the color of a flower while feeding on it or upon leaving it. The bee identifies the color of the flower only during the very short time when it is approaching to alight, and then it associates the color with whatever food or lack of food it will find. If the colors are changed during the bee's presence at the flower but after its approach, the bee will not find the flower again.[26]

An example of what is usually cited as learning is when the bees accommodate themselves to a change in position of their hives. It is often necessary to place a board or net in front of the hive in its new location so that the bees will be compelled to take a look around as they come out. There is no doubt that bees learn to find locations of food and their own hives. However, this is simply the implanting of a sense picture as *something good* in the memory. Hebb commenting upon the apparent

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[25]R. Ribbons, "The Honeybee," *Scientific American* (August, 1955), p. 54.

[26]This work was done by Elizabeth Opfinger. It is mentioned in the article by Ronald Ribbons cited above.

lack of learning in the bee indicates what position learning as sense-image combinations has in relation to inherited instinct.

> Much that we attribute to instinct, because no prolonged learning is evident might thus be due to learning that needs only a few seconds for its completion. The associations that are formed may be only certain ones to which the nervous system is especially adapted; heredity would still have an overmastering importance . . .[27]

INSTINCT—NOT INTELLIGENCE

We have seen that the instinctive power acts upon some image presented by the senses, and that this action has a constant end in which it terminates. Yet the bee does not apprehend these terms of its actions as they are ends. The bee does not really *know* the end of its movements. How could it foresee that a queen is formed by extra amounts of royal jelly? Fabre's experiments are a series of proofs for this thesis. The bee shows itself to be determined to attain these ends by certain means. The same behavior is often begun whenever a particular sensation is received.

It would be too long a digression to engage in a complete refutation of the schools of psychology which either reduce man's cognitive capacity to the sense level, or give brutes a grade of intellection. We can point out here briefly that what we commonly call intellectual knowledge *is not instinct,* nor is there any grade of intellect in brutes.

Knowledge of universals is proper to intellectual knowledge but the five characteristics of instinct show that the universal as such does not enter into the bee's life.

The bee has all its motor and cognitive patterns built in, and consequently they never improve their methods or enterprises. They cannot adapt to circumstances which even a child could overcome; creative activity, original work, is beyond them.

One of the most obvious attributes of man is the infinity of variations in his life; variation in speech, in customs, in architecture, etc., and yet it is a variety stemming from a few basic materials. The bees have no variation, no improvement, no failure.

Learning in instinct-driven creatures is only sense-association. The bees are chained to their own reactions to color, sound, motion. Instinct is marvelous, but in the last analysis it is determination and limitation, while intellect is in a sense infinite. The same instinct that turns move-

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[27]Hebb, *op. cit.,* p. 113.

ment into mathematics, and mathematics into stimulus causes the workers to kill themselves in their work over a period of weeks while the summer is at its peak; and it condemns the queen to a life sentence of perpetual parturience in the dark of the hive.

Unlike man bees do not know relations such as means to an end. They cannot distinguish between what is important and what is accidental. For instance, if the hive is moved more than a hundred feet in the spring or summer, the bees will fly over it on the way to the old location, remain at the old site, and die there. When the picture of their hive's surroundings entered the memory, the entire view was retained as important, for there was only a sense power here, no intellectual power to abstract the essential note—the white hive near the trees.

Instinct guides animals; intellect guides man. Instinct has been examined, and intellect could be counterposed to it as the cognitive power which knows relation, universals, and essences. The bee's life begins and ends on the sense level, while in man sensation serves as a foundation for the natural activity of his spiritual powers.

INSTINCT—A SENSE

Perhaps we have gone too far in our examination of the prominent characteristics of the "mental processes" of the bee manifested through its actions, and then in the critique of reflex and intelligence as incompetent solutions.

On the contrary, animals as possessing some degree of human intelligence or as machines are two ideas which are late concoctions and concepts which have never found great acceptance among philosophers, experimental scientists, and the public. There is a solution, a solution which gives the bee its wonderful powers as a concomitant and complement to its organism; a solution which admits some variety, some ability to condition the bee's life by experience, and yet preserves the obvious determination of the animal. This answer is not original, yet it is one perhaps unheard of by most of modern thought. It is the answer given by scholastic psychology.[28] The answer is based upon the idea that the animal is a living being midway between vegetative plants and intelligent man, that the animal is a living

[28]The following doctrine on instinct is based upon Aristotle's teaching found in his *On the Soul*, bk. II, iii, and elaborated by the psychological works of St. Albert the Great, St. Thomas Aquinas, and the Thomistic School.

being that senses. The solution is *to make instinct a sense, a sense recognizing the utility or the harmfulness of certain objects made present by sensation.* The bee's appetite acts upon this dictation of evil or good, and the motor power is directed to achieve the necessary means and end.

Obviously the key and difficulty to this solution is the new cognitive power, animals' substitute for intelligence. For it is this new potency of discrimination that is *essential* to instinct, since motive power and appetite are not limited to instinct. The peculiarity of this cognitive power consists in *representing as pleasant to the sentient being what is useful to the individual bee or to the hive as a whole.* The usefulness of wax, the value of nectar, the connection between ejecting the stinger and an enemy—objects of this cognitive sense—transcend the range of color, tone, hot and cold, and contain intentions not perceived by the eye, ear, touch, etc.

The faculty which forms the cognitive background of instinct—the reception headquarters for sensations and commands to action—is an internal sense; *internal* because it does not receive its sense images immediately from the stimulating object, and it is not located on the periphery of the organism; *a sense* because it does receive particular forms already sensed, impressions passed on to it through the five or less external senses and through the memory and imagination. It is not necessary that everything which is known be first known by every receptive sense. Eye is proportioned to color, tongue to taste, etc. The impressions pass through the external senses and activate this internal power capable of pronouncing upon them as good, bad, suitable, useful, etc. immediately, unhesitatingly, and without reasoning. The following statement illustrates this. "The releasing pattern for an instinctive act is usually a simple one . . . a form and/or the color of a structure . . . or a certain act [movement pattern] of another animal."[29]

All of the bee's activities are about what is good or evil to it as a bee or to the society to which it belongs. The knowledge received from the senses is entirely practical, i.e. it concerns ends and means thereto. Bees need to avoid and attain certain goals, so they need to perceive what the exterior senses cannot perceive. "If the animal moved only to and from pleasing and displeasing things according

[29]Stevens (ed.) *op. cit*, Nissen, *op. cit.*, p. 360.

to the senses it would not be necessary to place in the animal any apprehension of forms which the senses did not perceive. But it is necessary for the animal to seek some things and to flee others not only as pleasing or displeasing to the senses but also as something useful and good, or harmful . . ."[30] A sensory evaluation followed by action is caused by the immutations which sound, color, and scent make in this particular organic power. As we have seen, what essentially characterizes these instinctive actions is that their suitableness, of means and end, lies beyond the perception of the bee.

> Brutes . . . do not excogitate ends, nor do they excogitate means to ends. They apprehend the end, indeed, but they do not formally know it as end. End, formally, is a relative concept. To cognize end formally requires comparison which brutes do not enjoy. The brute, however, knows the end as useful or harmful to the subject knower and this is why he is said to know the end 'absolutely'. But he cannot know the end formally as such, since this is a notion inescapably including comparison of end to means . . . If brutes do not know end formally, they do not know means formally.[31]
>
> Comparative cognition is accomplished with a certain indifference by which extremes are compared, so that something may be resolved into its extremes or made up out of them.[32]

This internal sense is no hidden emanation from some quasi-spiritual soul we have put into the animal kingdom. It is a physiological determination, an organic power perhaps in the spinal cord or in the brain.

> Instinct is proportionate to small association area cortex. This does not, of course, explain why the instinctive behavior of any one species takes the particular form it does; but at this point we do have an explanation for the fact that instinct is most evident in lower species, in which the internuncial structures are small.[33]

All sensations are conducted to it and not comprehended but given a sensory evaluation. Modern experimentalists agree frequently with this solution.

> Most of their [insects'] behavior, however, is a matter of executing, repititiously and energetically certain motor co-ordinations in accordance with environmental stmulus patterns corresponding to *inborn perceptual organization.*
>
> Sensitizing component of behavior determination . . . are provided by the functioning of inherited structures.[34]

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[30]St. Thomas Aquinas, *Summa Theologiae,* I, q. 78, a. 4. (English Dominicans' transl., New York: Benziger, 1947)

[31]T. V. Flynn, "The Cogitative Power," *The Thomist,* XVII (1954), p. 552.

[32]John of St. Thomas, *Cursus Philosophicus Thomisticus,* III, (Paris: Vivès, 1888), iv, q. 8, a. 3.

[33]Hebb, *op. cit.,* p. 113; cf. p. 167.

[34]Stevens (ed.) *op. cit.,* Nissen, *op. cit.,* p. 359.

Here is an example of what the preceding paragraphs have been developing. A ten day old worker has emerged from its cell where it developed from larval stage. Wax begins to be secreted from glands near the abdomen. The bee notices another bee, whose abdomen is also secreting a similar object, hanging from the roof of the hive. The power of estimation registers: "To hang from that thing is good for me," and so the bee takes his position, and others follow creating a long chain of insects secreting wax.

Another worker sees the wax. The estimative power dictates: "That white thing should be gathered and brought to where 'bees' are working on similar white objects." The appetite and motor behavior follow, and this apprehension and dictation continue throughout the activity of the hive. Suitableness is an essential criterion of instinctive action. The senses cannot know why the white wax is useful and is not some poisonous excretion. Memory, weaving complex associations, cannot explain how bees prepare an ordinary larva to become a queen, and why they should do this, for the bees have never seen this complicated procedure performed before, nor can they foretell the future of the hive.

INSTINCT—APPROACHING INTELLIGENCE

Natural estimation is the determined, simple (as opposed to comparative) judgment of the usefulness or harmfulness of some concrete singular action for the brute. However, it is a judgment only in a broad and improper sense. The estimative faculty in animals judges not by comparison, but rather is actuated by this particular object.

> The estimative power attains not only one object but many and one distinctly and not confusedly from the other. So the estimative power discerns or judges of the utility or non-utility of the object by its natural instinct which *is the very determination of the power which is stimulated by the sensible images.*[35]

Often we have spoken of the bee "perceiving," the estimative power "dictating," and the insect "acting." This seems to form a syllogism. Darwin defended this opinion.

> Of all the faculties of the human mind it will, I presume, be admitted that Reason stands at the summit. Few persons any longer dispute that animals possess some power of reasoning. Animals may constantly be seen to pause, deliberate, and resolve. It is a significant fact that the more the habits of any particular animal are studied by a naturalist

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[35]John of St. Thomas, *loc. cit.*

> the more he attributes to reason and the less to animal instincts. In future chapters we shall see that some animals extremely low in the scale apparently display a certain amount of reason.[36]

Darwin produced more statements of such dogmatism yet no convincing proof. It is unscientific in the extreme to apply *our* version of this animal activity in order to convert it into a reasoning process fashioning syllogisms. In the "syllogism" of animal action the major is the determination and needs of the animal's nature, of the species. The minor is the perception of something which is identified with the good or harm of the nature. The conclusion is the movement of the sensitive appetite and the motor power following upon the perception of the internal discriminative sense which is instinct. Darwin formed by the psychology of the English philosophers in the centuries between himself and Descartes failed to distinguish between sense perception and intelligence. He saw combinations of sense representations as intellectual action. Even in man there are activities which result from mere combinations of sense representations and not from formal syllogisms.

We must admit that the combinations of sense representations in animals are also implicitly equivalent to formal conclusions. Yet we can deny that there is only an external and unessential difference between such processes and man's intellectual reasoning with ends and means whose connection and values he clearly recognizes. Discriminating analyses of human mental gymnastics distinguish between a material and a formal conclusion. A material conclusion is often only a complex sense representation which can be resolved into a formal ratiocination by the human mind. Formal reasoning is the conscious and deliberate movement from two premises to a conclusion; this involves the acquiring of a new truth virtually in the premises. Moreover, man, who reasons formally, often follows an abbreviated method, the enthymeme. Animals always follow the same method, sense-association, and are far below the ability-level of skipping a premise. What man might read into the animal really rests upon the laws of instinctive association of images and reaction which belong completely to the sphere of sense knowledge. The result of these combinations depends upon innate disposition, upon dictates of the estimative power, upon instinct. To return to the bee secreting wax, we notice that it, although completely uninitiated to this process, does not brush it off as something strange and uncomfortable as might be expected, but allows other bees to

[36]C. Darwin, *Descent of Man*, I, p. 46 in Wassman, *op. cit.*, p. 15.

gather it. The syllogism which the human mind sees here is this: Wax from these glands is of some value to myself or to the hive, and others will gather it. White objects secreting from these glands are wax. Ergo . . . wait and see! Obviously these three lines are not passing through the "mind" of the bee after two weeks of life.

INSTINCT—ITS RAISON D'ETRE

Bees, therefore, do not elicit knowledge about the external world's relationship to *apis melifera* mediately, that is through reasoning, but immediately.

We have established that this cognitive vital principle governing the spontaneous actions of the bee is an internal organ probably in the brain placing a certain estimative value upon sense images received externally or from the memory and imagination. Why does the bee have this sense? Why do animals have instinct?

One of the alternatives to instinct is intelligence. Why isn't the bee a reasoning animal as man is? The strict evolutionist answers that life is a progressing continuum, one of whose parts, man, possesses intellectual life. The bee has not yet made the evolutionary jump to a higher degree of "mental processes." However, those who do not accept arbitrarily placed leaps from sense to intellect seeing that without intervention of a higher power no leap across this infinite chasm is possible "freely deny what has been freely asserted." Also since we only observe the bee as it is, it belongs to science to determine why the bee is what it is; not to speculate about why it is not what it is not.

We can give an equally true answer to the question posed depending upon which aspect of the insect we consider; the physiological structure, the actions, the origin of its life, or the survival of the individual and of the species. The combination of all these blend and form the complete answer—the bee has a complicated estimative power because it is a bee; what it does is the key to what it is.

An examination of the bee's structure from neuro-cerebral, organic, and anatomic aspects offers the first reason for the estimative sense power. An animal with pouches for carrying pollen and resin, with a proboscis and digestive system for transforming nectar into honey, with at least one highly developed sense organ (a compound eye which seems to analyze the polarization of light) demands a highly complex organ to guide all these actions toward success. Wasmann is considering this somatic aspect:

> This hereditary disposition of senile cognition and appetite which is in reality the very root and source of instinct can be considered from a psychic or a somatic point of view. It is psychic in as far as it is founded in the nature of the animal soul; but it is somatic in as far as it is most essentially connected with and dependent on the specific condition of the nervous system, of the organs of sense perception, and of the exterior instruments and vegetative organs of the body.[37]

All the manifold activities mentioned in this study demand a considerable versatility in behavior. This behavior itself is a similar reason for instinct since the actions are but the fulfillment of the organs from which they originate. An animal which reduces a liquid to honey of a constant consistency by air conditioning, an animal which constructs perfectly hexagonal cells out of unformed wax, an animal which transmits precise directions and distances by bodily movements needs a complex organ which is able to dictate teleological actions following upon the reception of sense images.

Again, we notice the bee born with all its necessary organic equipment. No one is assigned to instruct the novice, but within three days it is expected to perform specialized actions for the benefit of its society. Within the insect must be an inherited faculty fashioning immediately a useful member of the community.

Finally, the whole *raison d'être* of the honey bee is pollen and honey along with whatever is necessary to gather, preserve, and use it. So too, these goals are ordained to the ultimate goal, a vital force hovering over the hive, the well-being of the community now and in the future. Because the individuals of the animal world have no spark of personal immortality within them, every hair on the bee's body, every pattern of nerve tissue finds its meaning in service to the hive, in the perpetuation of the species.

This internal sense faculty, instinct, preserves and perpetuates the species; and within it is the foundation for distinction between one animal species and another.

Thomas Aquinas O'Meara, O.P.

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[37]Wasmann, *op. cit.*, p. 37.

SCIENCE: ONE OR MANY

"Some People Do Not Listen to a Speaker unless he speaks mathematically."[1]

St. Thomas comments that here Aristotle refers to two classes of people. Some have been reared on mathematics and can understand nothing else. Others, however, are addicted to mathematics because their imaginations are stronger than their intellects.[2]

A brief look at the history of modern philosophy confirms this judgment. There is a good deal of imagination behind the ideas which shaped our modern age of predominantly mathematical science. Often such imagination is not tempered by sober thought. Not all modern science can be passed off so lightly, however. The philosophy which supports this modern science was created by men whose training and preference were mathematical. Whatever the cause, it is undeniably true that the refrain in the ballad of modern thought is this: "The mathematical method is the only way to true science. Mathematics is the queen of the sciences, and other fields of knowledge can be scientific only insofar as they bow before her and imitate her."

René Descartes is directly responsible for this outstanding trait in the modern trend of thought which he fathered. At first glance, St. Thomas' description of one who thinks of all knowledge as mathematical does not seem to fit Descartes, for it never seems to have occurred to the Angelic Doctor that such a viewpoint could be the result of an inspired dream. But it was in a dream, Descartes tells us, that his mission in life was revealed to him, the mission of reducing all human knowledge to one,

[1]Aristotle, *Metaphysics* (Oxford trans.), II, ch. 3, 995a 6.
[2]St. Thomas, *In Metaphysicam Aristotelis Commentarium*, II, lect. 5.

universal "Admirable Science." On November 10, 1619, while the young soldier-philosopher dozed in his overheated quarters, his mind, filled with the enthusiasm enkindled by what he called a certain "Genius," produced three dreams. In the first he was thrown against a church by a violent wind. In the second he was awakened by a burst of lightning. In the third he saw a dictionary and a *Corpus poetarum* opened to the passage, "quod vitae sectabor iter?"

These dreams in themselves are not as unusual as Descartes' interpretation of them, an interpretation which laid the foundation of modern philosophy. The lightning, he felt, was the Spirit of Truth descending upon him. The passage from the book was an invitation to follow that Spirit, and the dictionary signified his life's work to collect all the sciences into one universal science,[3] the *scientia mirabilis,* whose principles were to be an infallible and easy route to "Universial Knowledge which will raise our human nature to its highest point of perfection."[4]

What were the principles of this "Universal Knowledge" to be? None other than the famous clear and distinct ideas. Nothing, says Descartes, is to be accepted as true unless the mind intuitively perceives it clearly as a whole, and distinctly in its details and relations.[5]

There was one obstacle in this easy new road to an understanding of the world. Only the quantitative aspects of things could be known by such a method. Descartes removed the obstruction by denying the extramental reality of all the other aspects of the universe, which his new science could not explain. He thereby left his new science as the lord and master of all existing reality.

About ten years later, across the English Channel, Thomas Hobbes, while browsing in his employer's library, happened across an open copy of Euclid's *Elements.* He was attracted by the clearness and distinctness of the propositions and demonstrations. He, too, became convinced that all reasoning is mathematical, and, like Descartes, he denied the existence of those sensible qualities which this mathematical type of reasoning could not explain. "Geometry," he says, ". . . is the only science which it hath pleased God hitherto to bestow on mankind."[6]

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[3]Jacques Maritan, *The Dream of Descartes* (Mabelle L. Andison, trans., New York, Philosophical Library, 1944), pp. 13-15. Descartes' original manuscript is now lost. This account comes to us through his biographer, Baillet (*ibid.,* p. 189, note 3).

[4]*Ibid.,* p. 25.

[5]Descartes, *Principles,* Part I, XLV.

[6]Hobbes, cited by Mortimer J. Adler (ed.), *The Great Ideas, A Syntopicon of Great Books of the Western World,* (Chicago, Encyclopedia Britannica, 1952), Vol. II, p. 287.

What is the significance of such a mathematicism which has since influenced the course of all modern philosophy?

It is characteristic of mathematics to have what we might call clear and distinct ideas—that is—concepts representing essences from which the reasons for the properties can be drawn by a deductive process. In geometry, for example, we know the essence of a triangle so clearly, we perceive its relations to its parts so distinctly, that from this knowledge we can deduce the properties of this essence with little difficulty. This, thought Descartes, is precisely the way in which all human knowledge should proceed. But in the changing world around us there is much which cannot be deduced by this method. And to meet this difficulty Descartes and Hobbes simply refused to recognize what their mathematics could not explain.

Later thinkers, accepting Descartes' idea of a universal mathematical science, saw that if we are to let our own minds determine what does or does not exist, there is no reason to affirm the existence of anything outside the mind. This position, Berkeley thought, removed all the difficulties. Hume saw no reason for admitting anything but the clear and distinct ideas, and so he even denied the mind in which they exist.

It was Kant who attempted to repair the breach through which the value of human knowledge was so quickly draining away. He thought he had saved the validity of mathematical physics, the offspring of that universal science for which Descartes had sacrificed all else, by denying the possibility of knowing the real essence of anything in the world outside the mind. By denying the possibility of metaphysics, the professor from Königsberg succeeded only in destroying the last remaining link between the mind and reality.

Now the mind of man was free to create its own world. Fichte called realists cowards. Only the self-reliant idealist has the courage to create his own world. So it was that the minds of such men as Hegel, Schopenhauer and Nietzsche created worlds which were fantastic and frightening, fantastic because of their irrationality, frightening because of the possibilities they offered to those who used them as patterns in trying to recreate the very world their inventors had denied.

In a certain way this is a realization, though a perverted one, of that dream of Descartes which played so great a part in starting the entire movement. His new universal science was to be a reconstruction of human knowledge. It was to be an infallible and easy route to the

perfection of our human nature. The reconstruction certainly was accomplished, but we who live in a world which is largely the result of that reconstruction look in vain for the perfection which was supposed to follow.

Can there, in fact, be a universal science comprehending all aspects of human knowledge, or is "science" an analogous concept, one applicable not only to fields of knowledge employing the mathematical method but also to those which transcend this limited scope which mathematics offers? To answer this question we must determine what we mean when we speak of science.

To know a thing scientifically is to "know the cause why a thing is, that it is the cause of this thing, and that it cannot be otherwise."[7] The word science iself is used to signify three things. Primarily it means the intellectual habit acquired by repeated demonstration about a subject genus. Secondarily the name signifies the individual demonstrative syllogisms. And finally, it is used to indicate an ordered arrangement of all the demonstrations about any subject genus.[8] In the following pages we will use the word in its primary signification.

An intellectual habit, as any other, is specified by its act, and the act in turn by its object. The most general division of sciences is into those whose objects are known for the sake of doing or making something and those whose objects are known for their own sake. This is the basis of the division between the practical and speculative sciences.[9] It is the speculative sciences with which we are here concerned.

What we know scientifically are the conclusions of a science.[10] These conclusions of a given science are about subjects of one genus, and the genus is constituted by the common aspect under which all the particular subjects are connected with their attributes. This common aspect is the mode of definition proper to each genus since the reason for the attribute must be found in the very nature of the subject, and the nature is expressed in the definition of the subject. This definition of the subject is the principle, the "light," by which we see the reason for the predica-

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[7]Aristotle, *Posterior Analytics,* (ed. by W. D. Ross, Oxford, Clarendon Press, 1944), I, ch. 2, 71b 11-12: (trans. my own).

[8]Joseph Gredt, O.S.B., *Elementa Philosophiae Aristotelico-Thomisticae* (Barcelona, Herder, 1953, 10th ed.), Vol. I, pp. 180-181.

[9]St. Thomas, *Expositio super Librum Boethii de Trinitate* (ed. by Decker, Leiden, Netherlands, E. J. Brill, 1955), q. 5, art. 1.

[10]St. Thomas, *In Aristotelis Libros Posteriorum Analyticorum Expositio,* (ed. Leonina, Vol. I, *Opera Omnia,* Rome, Typ. Poly., Vat., 1887), I, lect. 3.

tion in the conclusion.[11] The subject genus and its proper principles, that is to say its definitions, are correlative.[12] St. Thomas, however, compares a science to a continuous motion. Such motions, he says, are diversified by their principles, their starting points, and they receive their unity from their ends.[13] This is like saying that the members of a society are one insofar as they work toward one goal, but different because of varying family backgrounds.

Since we wish to prove that "science" is not a univocal concept as Descartes and his successors thought it to be, we must now digress from our consideration of science and definition to say a word about analogy.

Analogy differs from univocation in that by it we predicate terms of things which are generically diverse. A man and a horse fall in the same genus, and so they are called animals univocally. God and man are not in the same genus, for between them stands an infinite diversity. Any term predicated of both is at best analogical.

The genus expresses what is material or potential in a thing, while the differences which contract a genus to this or that particular species express the formal aspect of the nature. This is not to say that matter and form are identical with genus and difference. The former are parts of a corporeal nature while each of the latter expresses the whole nature but under different aspects. The genus expresses both matter and form, but it represents matter as informed by a common form, e.g., animality, undetermined by a specific form, e.g., rationality. In this example the genus animal does not express merely prime matter, but matter informed by a form common to all the different species of which "animal" is predicated. The specific difference, rational, also expresses both the matter and the form, but it includes the matter only insofar as it is determined by this particular ultimate form. This being said, it still remains, however, that because the genus expresses the whole as it is potential (this is true even in the case of created beings which are not composed of matter and form but of some other kind of potency and act) it is taken from the potential or material part of a nature, while the difference, expressing that which is actual or formal, is taken from the actual or formal part.

We conclude that just as distinct differences are predicated of things having specifically different forms, so too, diverse genera are predicated of things having diverse matters. In trying to determine if a term or

[11] *Ibid.*, I, lect. 41.
[12] *Ibid.*, I, lect. 36.
[13] *Ibid.*, I, lect. 41.

concept is univocal or not, if we find that it represents things which have diverse matters we shall know that it cannot be univocal, because the things it represents will be generically diverse.[14]

Equivocation differs from analogy in that the latter type of predication is based upon some similarity between the things which are generically distinct. The word "see" when used to indicate the operation of the eye and when predicated of a seat of authority is a purely equivocal term. That this one word should have come to be used in these two ways is an accident of the language. If, on the other hand, we say that a person's complexion is healthy we are using analogy. Only animals are properly said to be healthy, but animals and complexions are certainly not of the same genus. Since a complexion of a certain color is a sign of a healthy person, we call that kind of complexion healthy.

There are three kinds of analogy. The example given above is analogy of attribution: a quality is attributed to something of which it is a sign or cause. Another type, metaphor, is too well known to need exemplification. The kind with which we are concerned in this article is analogy of proportionality. This type is most proper to scientific discussion, for it is used only when there is a proportion between things not of the same genus. The attributes of God are the best known example. The goodness of God and of man are as diverse as any two things can be, yet there is a proportion. God's goodness is to Him as man's is to him.

It is peculiar to analogy of proportionality that not only terms, but concepts as well are analogous. We have one concept of goodness, but it is so broad that, keeping in mind the differences between God and man, we can apply it to infinite as well as finite goodness. It is a property of this type of concept that it always includes explicitly the differences between the things to which it is applied, while it is characteristic of other concepts that these differences are left out of consideration.

We are attempting to prove that "science" is an analogous concept. Sciences are diversified by their principles, i.e., their definitions. If the definitions in the various disciplines which we call sciences include diverse matters we will know that "science" is not a univocal term. If, apart from this generic diversity there is some relation by reason of which these disciplines are classified together we will know that "science" is an analogous term and an analogous concept as well.

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[14]St. Thomas, *In Metaph.*, V, lect. 7; VII, lect. 12; X, lect. 10; X, lect. 12.

Let us return to our discussion of definitions, the principles of sciences. In the Aristotelian-Thomistic tradition the primary meaning of the word definition is "a phrase expressing the essence or causes of a things."[15] This is called a real definition. There are also etymological and nominal definitions, but these concern the origin and meaning of words. They do not apply to things immediately. We must presuppose for the purpose of this article that the human mind is capable of knowing the essences of material things, although this has been denied by the nominalists.

Not every real definition can serve as the principle of a science. Only those which can be used as the medium of a scientific demonstration are useful as principles. Such definitions are those which express the nature of a thing, its essence precisely as it is the cause of the attributes of the thing. "A being composed of a body and of a spiritual soul" is a real definition of man. It tells what a man is, and it sets man off from everything else in the world, but as it stands it is not of much use when it comes to explaining why man acts as he does. If we define man as "a rational animal," however, we have the reason for every act which proceeds from man as man.

Since a real definition expresses the essence of a thing, there are as many different ways of defining as there are kinds of essences which we can know. Now there are three different kinds of natures which we can know: those which depend upon matter for their being and for their being known; those which depend upon matter for their being but not for their being known; and finally those which exist or at least can exist independently of matter and which, therefore, do not depend upon matter for their being or their being known. Corresponding to these three kinds of knowable natures there are three modes of definition: that which includes sensible matter; that which does not include sensible matter; and that which includes no matter whatsoever.[16]

The mind in the act of apprehending can abstract one aspect of a thing and leave the others out of consideration only if there is a composition in the thing which allows of such an abstraction, i.e., if there is an aspect of the thing which does not depend upon the rest for being understood. One such composition is that of a whole and its material parts.[17]

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[15]Definition based on Aristotle, *Post. Anal.*, II, ch. 8-10 and St. Thomas, *In Post. Anal.*, II, lect. 8-9.

[16]St. Thomas, *In Boet. de Trin.*, q. 5, art. 1.

[17]*Ibid.*, art. 3.

For example, the nature of a circle can be known without knowing what a semi-circle is.[18] In fact, the material part depends upon the whole for its being understood, for a semi-circle is defined as half a circle. The composition of the essences of material things with their individuating matter is like this. The mind, unable to know the singular because of this individual matter, abstracts its essence with al lits accidental, senible, changeable qualities. A substantial essence known in this way is said to contain sensory matters,[19] since it is the subject of these sensory qualities, and it is defined as it is known, i.e., with sensory matter. It is this sensory matter which St. Thomas intends when he says that some essences depend upon matter for their being known.

The essences which must exist in matter but can be known without matter are quantities. In the order of nature quantity is the first accident to inform a material substance. It is the accident through which all the sensory qualities of which we were speaking inform a material substance, and, so, it can be known without these sensory qualities.[20] The mind can abstract the form of quantity from sensory matter, and this is what we mean when we say that some essences although they must exist in sensory matter can be known without it. This needs qualification, however. Quantity, since it is an accident, depends upon substance for both its being and being known. Substance, understood as the subject of quantity, abstracted from all the other accidents which follow quantity, is called intelligible matter, and it must be included in the definition of quantitative essences.[21]

This is as far as the mind can go in the act of apprehension. We do not perceive in this world any but material substances, but after we perceive enough about them we can come to judge that there are also immaterial substances. After making this judgment we can define such substances as they really exist, or at least as we know them, without any matter.[22]

To sum up, there are three ways in which we can define things: with sensory matter, with intelligible matter, and without matter. Since the first two modes of definition are composed each of a different matter and the third includes no matter, there must be a generic diversity among

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[18]*Ibid.*
[19]*Ibid.*
[20]William H. Kane, "Abstraction and the Distinction of the Sciences", *The Thomist,* XVII (1954), 49.
[21]St. Thomas, *In Boet. de Trin.,* q. 5, art. 3 (cf. footnote 2 on p. 184, *ed. cit.*)
[22]Kane, *op. cit.,* pp. 62-63.

these modes. Therefore, the notion of definition in these three modes is not univocal.

It is apparent that there is a definite proportion among these three modes of definition. A definition including sensory matter, e.g., "rational animal," is related to its object just as a definition including intelligible matter; "a circle is a figure whose circumference is at all points equidistant from the center," is related to the mathematical essence of a circle. A definition which includes no matter, "that to whose essence it belongs to be in itself and not in another," is related in the same way to its object, substance. Each mode expresses the essence to which it is fitted. "Definition," then, is analogously applied to these three modes by analogy of proportionality. Since definitions are the diversifying principles of sciences, we can conclude at the same time that science itself is an analogous idea.

Another problem is immediately evident. There are only three modes of definition, but obviously more than three sciences. Are all the other intellectual habits commonly called sciences merely species of these three genera? Let us take logic as an example. The subject of logic is "second intentions" or creations of the mind consequent upon the acts of the mind. These beings of reason, inasmuch as they inhere in a spiritual subject, are independent of matter and are defined without it. Logic, then, defines its subjects in the same way as metaphysics, yet the subject of metaphysics, common being, is certainly generically diverse from the second intentions which comprise the subject of logic. To the former we attribute real existence outside the mind; to the latter we do not. And so logic and metaphysics must be generically diverse sciences.

Sharing the second mode of definition with traditional mathematics is what St. Thomas recognizes as "scientiae mediae inter mathematicam et naturalem."[23] The number of sciences which can be classified under this general title has increased greatly since St. Thomas' time. The definitions given by Newton in his *Principia Mathematica* are classic examples which clearly illustrate that this mode of definition is not limited to the purely mathematical sciences. These *scientiae mediae* are certainly generically distinct from geometry or algebra, for they study not quantity, but sensory, mobile beings. On the other hand, we cannot reduce them to species of natural science if that term is taken strictly, for they define their subjects in a different way. Most of what we are accustomed to call

[23]St. Thomas, *In Boet. de Trin.*, q. 5, art. 3 ad 5.

natural science in our own day, especially modern physics, falls under this classification. Although it studies the same subject as the science of mobile being which traditionally has been called natural science, physics as we know it in our day is really generically diverse from the physics of the scholastic tradition. Modern physics and its related "in between sciences" are, by reason of their mode of definition, more closely related to mathematics than to Aristotelian physics.

Are there diverse genera of sciences sharing the first mode of definition? The practical sciences depend upon natural science for thir speculative principles, and, therefore, they share in the same mode of definition. Among the speculative sciences, however, only natural science uses this mode. The reason lies in the intimate bond between this mode, in which things are defined as including sensory matter, and natural science, which has as its subject mobile being.

How are we to reconcile this multiplicity of generically diverse speculative sciences with the principle used in this article, i.e., sciences are diversified by their principles? We have shown that these principles are the definitions of a science and that there can be only three generically diverse modes of definition. How, then, can there be more than three generically different sciences?

We have already indicated a division of the sciences prior to the one considered in this paper. We study things either for the sake of using them or for the sake of understanding them. Only the sciences about things studied solely for the sake of understanding them, only the speculative sciences, are distinguished by the way we understand and, consequently, define their subjects. The others, the practical sciences and liberal arts, are to be distinguished by the ways in which we use their subjects. Although logic is, under a certain aspect, a speculative science, it is primarily a liberal art. It studies second intentions, not for the sake of understanding them, but for the sake of learning to order them in a useful manner. The division of logic as well as of the practical sciences from the strictly speculative sciences is prior to the division of these latter.

The *scientiae mediae* are not sciences in the strictest sense, i.e., knowledge through proper causes. As we have said, the subject of these sciences is mobile being, but we have also said that the proper principles with which to study mobile being are those which include sensory matter.

The *scientiae mediae,* however, study mobile being with mathematical principles. St. Thomas calls them *quia* sciences in contrast to the *propter quid* sciences, e.g., natural science and mathematics.[24]

We have attempted in this article to prove that the concept of science is an analogous one. The basis for this proof has been the traditional division of the three speculative sciences by reason of the three modes of definition. Before concluding we have indicated that the term "science" is far more analogous in its use than even this proof demonstrates. Besides the three genera of speculative sciences diversified by their proper modes of definition we also have *quia* sciences, certain liberal arts and practical sciences, all generically distinct, yet all called by the name "science." A more thorough investigation of the analogy involved in the concept of science in this wider sense is beyond the scope of this paper, for in showing the role of definition in diversifying those sciences which are most properly called sciences we have accomplished our purpose, to show that the concept of science is not univocal as the majority of thinkers since Descartes have thought it to be.

Raymond Motl, O.P.

[24]St. Thomas, *In Post. Anal.,* I, lect. 25.

COMMUNISM AND RELIGION

"COMMUNISTS ARE THAT PART OF MANKIND which has recovered the power to live or die—to bear witness—for its faith. . . . Like all great faiths, its force derives from a simple vision. Other ages have had great visions. They have always been different versions of the same vision: the vision of God and man's relationship to God. The Communist vision is the vision of Man without God."[1]

In this paper we will attempt to illustrate the role of religion in an atheistic philosophy. We will sketch the attitudes of Karl Marx toward religion when he developed his philosophy of dialectical materialism. Then we will follow the men who incorporated this philosophy of Marx into the official policy of the Russian state after the Bolshevik revolution of October, 1917. We will see how a religious people of the Orthodox faith accepted an atheistic system as its formal philosophy of government. Then we will examine a certain enticing character of Russian Communism which makes it seem to be like a religion itself. Finally we will note the policy of persecution which the Russian Communistic government has employed in its struggle against religions.

RELIGION IN THE PHILOSOPHY OF DIALECTICAL MATERIALISM

Karl Marx was a Jew by race, but he did not hold the convictions of the Jewish religion toward God. Marx was an atheist; he denied the existence of God. The philosophy of historical and dialectical materialism has its dis-proofs for the existence of God. Since there is no God, there is no reason for a religion to honor God. The fact

[1]Whittaker Chambers, *Witness,* (New York: Random House, 1952), p. 9.

that religion has existed, and does exist, can be explained either through ignorance on the part of the people or through exploitation on the side of the rich and ruling classes. These basic tenets were embraced by Karl Marx and Frederich Engels. They were held by the leaders of the Bolshevik party at the time of the Revolution. This same core of doctrine is held today by the government in the Union of Soviet Socialist Republics and by the Communist party throughout the world.

The non-existence of God is established from the examination of matter and the principle of the dialectic. Matter has within itself an efficient cause. The dialectical principle in matter is the struggle of opposites within the very essence of things. This causes quantitative and qualitative changes as a result of the constant change and revolution within matter itself. Since these facts are explainable through the nature of matter, there is no reason for positing an external force or a transcendent being to cause matter and its revolution.

With this principle of immanence from their philosophy of nature, the Marxists have proceeded to examine the fact that peoples through the centuries have had gods and religions. Marxism has a definite philosophy of religion and this has been developed by an historical method. In fact, the Marxists maintain that the only way to obtain a true knowledge of the nature and purpose of religion is to examine the historical fact of religion. By searching the pages of history, the cause and origin of religion could also be obtained. Their method is proposed as being objective and scientific.

In the perusal of history, Communism has found two causes of religion. One type of religion is founded on ancient ignorance of men and this might be called primitive religion. The other kind of religion is rooted in private property and this could be termed economic or bourgeois religion.

First of all, let us consider the primitive mode of religion in history. This is a case of a superstructure which is not based upon economics. The reason for this one example of a superstructure which is not built upon an economic foundation is simply that this religion existed in history before the establishment of private property and the consequent economic modes of production. Primitive peoples were very close to nature; they were greatly dependent upon favorable conditions in nature for their continued existence and weal. The primitives stood in awe before lightning, wind, sun, and rain. The mighty power of

these forces of nature gave a basis for ignorant people, who did not understand the true nature of matter, to presume that these were actions of the gods.[2] Since these forces in nature could be favorable or unfavorable, the primitives sought some way of obtaining assurance that rain would be plentiful in the proper season, that lightning would not strike a person's hut, and so forth. As a consequence, these ignorant people began to pray to their imagined gods so that they would be merciful in displaying their power in the world of nature. From these original petitions and sacrifices the primitive tribes developed religion, a superstructure to their simple life.[3]

The second stage in the development of religion had its inception with private property. As society developed, men began to have private ownership of property. And as this private property increased, the power of the owner greatly increased. Soon, those who did not have property were feeling the effects of great economic forces, just as the primitive peoples knew the mighty force of nature. The unpropertied classes found that they could not control these forces; they were victims—helpless sufferers. The mode of production developed a society in which the ruling and propertied groups could exploit the workers, those who had no property and had no power. With the rise of exploitation, the higher classes helped to develop various superstructures which would protect and preserve this institution of exploitation.

In the evolution of society, one of these superstructures was religion. The evils and the exploitation confronting the proletariat were the occasions for the development of religion. The economic poor were not happy in their state, and so they conceived, through prolonged reflection, that there would be a future life and that this life after death would bring the happiness not available now. Not content with a hope in the remote future life, the workers sought to alleviate their present misery by supplication of a merciful god. They gradually evolved the idea of a transcendent god who would watch over the oppressed persons and classes. This god would assist them in bearing the burden of exploitation.

It did not take very long for the ruling and possessing class to realize the value of this religious psychology in the lower class. Through prayers and ceremonies their minds were placated to their economic

[2]F. Engels, *Ludwig Feuerbach*, (New York, 1934), pp. 30-31.
[3]Charles J. McFadden, *The Philosophy of Communism*, (New York: Benziger, 1939), p. 130.

situation. By relying on this hope of future economic satisfaction, the proletariat would not revolt against their oppressors. This was a great advantage to the upper class. The rich class bent their own efforts to the cause of religion; they protected and developed religion. Religion was a tool in the hands of the possessing class to maintain their private property and their exploitation over others.[4]

> In modern capitalist countries the basis of religion is primarily social. The roots of modern religion are deeply imbedded in the social oppression of the working masses, and in their apparently complete helplessness before the blind forces of capitalism, which every day and every hour cause a thousand times more horrible suffering and torture for ordinary working folk than are caused by exceptional events such as war, earthquakes, etc. "Fear created the gods." Fear of the blind forces of capital—blind because its action cannot be foreseen by the masses—a force which at every step in life threatens the worker and the small business man with "sudden," "unexpected," "accidental" destruction and ruin, bringing in their train beggary, pauperism, prostitution, and deaths from starvation—this is the tap-root of modern religion which, first of all, and above all, the materialist must keep in mind, if he does not wish to remain stuck forever in the kindergarten of materialism.[5]

It is obvious, then, that religion has had its value since the beginning of exploitation by those who have private property. (Men no longer worry about the forces in nature, for scientific technology has alleviated mankind's radical dependence on nature.) The unknown and unpredictable powers of the economic system still confront men, and religion salves their minds to agreeing with the status quo.

Karl Marx described the role of religion in the following words:

> Religion is the sigh of the oppressed creature, the sentiment of a heartless world, as it is the spirit of spiritless conditions. It is the opium of the people.[6]

"Religion is the opium of the people" is a catch-phrase in very common use among Communists. Besides being a popular presentation of their attitude toward religion, it also describes the very nature and purpose of religion in the system of Communistic materialism. Opium is a sedative. It clouds the mind, allays irritation, and alleviates pain. This is the purpose of religion in the social and economic order. The purpose and essence of religion, as the opium of proletariat, may be summed up in three features:

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[4]F. Engels, *Anti-Dühring*, (New York, 1935), pp. 353-354.
[5]V. Lenin, *Religion*, (New York, 1935), pp. 14-15.
[6]Karl Marx, "A Critique of the Hegelian Philosophy of Right," in *Selected Essays of Marx*, (New York, 1926), p. 16.

1. Religion is an opiate since it teaches that the rich have rights, and this merely strengthens the actions of the rich in exploitation.

2. Religion is a sedative on the poor by impressing upon them that they have duties to perform to the rich; this makes exploitation by the rich all the easier, since they face less opposition.

3. Religion is so soothing that it makes religious people passive so that they never initiate or continue any activity which might better their economic status.

> Religion is a kind of spiritual intoxicant, in which the slaves of capitalism drown their humanity and their desires for a decent human existence.[7]

Since the purpose of religion is bound up with private property, when private ownership is destroyed, there would no longer be a need of the superstructure of religion. When the proletarian Utopia is established, there will not be economic oppression, unknown dictatorship and crises, want and exploitation.[8] For this reason the economic poor will have no need of the assuages of religion, since they will no longer be poor. When the class struggle finally ceases, all the people will realize the magnificence of the classless society, and they will no longer feel the need to oppress and exploit others. They will not need religion as a means for economic exploitation. Therefore, in the classless society, religion will cease.

During the era of the class struggle, however, Marxists must persistently wage war against religion. It must be remembered that religion is a support and strength to the capitalist position. As long as religion remains, it hinders the dialectical process between classes. The sooner religion is destroyed, the quicker the classless society may be achieved.

RELIGION AND RUSSIAN COMMUNISM

Holy Russia Accepts an Atheistic Philosophy

The very fiber of the Russian people is religious. This is a primary fact which cannot be overlooked. Centuries ago, the Patriarch of Constantinople had sent missionaries to the northern lands. Over a period of many years all of Russia was converted to Orthodoxy. Religiosity became a national trait. Whenever one would think of Russia, he had to consider that Russia was Orthodox and that Russia was

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[7]V. Lenin, *op. cit.*, p. 7.
[8]McFadden, *op. cit.*, p. 125.

religious. During the nineteenth century, two groups broke with this tradition. They were the Russian Nihilists and the Russian Atheists. Each of these had some influence on the people and on Communism. However, these were philosophies of a few intellectuals, and their thought did not profoundly influence the religion of the people. In fact, the masses of the Russian peasants and workers did not even know they existed.[9]

However, there are some peculiar features of the religious nature of the people in Russia. The Orthodoxy they knew was not a militant and independent religion. Through the domineering efforts of Peter the Great and Catherine II, Russian Orthodoxy had been thoroughly subordinated to the state. Since 1700, the people knew their religion as being second-rate in comparison with the government. Because of domination and protection by the state, the Orthodox Church gradually became internally weak. The hierarchy had no influence on social activities. The seminaries for the training of priests and deacons were definitely inferior. Often the work of her priests seemed to be empty ritualism.[10]

This was the religious situation in Russia at the time of the abdication of Czar Nicholas. This was February of 1917. Following his resignation various provisional governments held the power. These were coalition governments, composed of the old Duma party and various revolutionary groups, such as the Soviet of Worker and Soldier Deputies (Menshevik) and the Social Revolutionaries (agrarian). At this time, there were four principal parties struggling for the supreme power; the weakest of these four was the radical Bolshevik party.

Between that February and the following October, the Bolshevik party had changed its insignificant position among the parties to becoming the sole power. This was accomplished largely through one man and his policy. He was one of the few who realized the real, vital issues. He understood what the people wanted and this became his program. This man was Lenin.

Nicholai Lenin presented a three-fold policy: peace, bread and land. Through his revolution-provoking rhetoric, Lenin convinced the Russian people. And Bolshevism became the master of Russia.[11]

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[9]Nicholas Berdyaev, *The Russian Revolution,* (London: Sheed and Ward, 1932), pp. 10-24.

[10]N. S. Timasheff, *Religion in Soviet Russia—1917-1924,* (New York: Sheed and Ward, 1942), pp. 2-10.

[11]Christopher Hollis, *Lenin,* (Milwaukee: Bruce, 1938), p. 188.

In the months preceding the October Revolution, no mention was made of religion. Many other issues occupied the mind of the people: a war with Germany, the failure of the Czar, the confusion in the government. The charge of atheism could have been leveled at the Bolshevik party, and this would have ruined the influence of that party. But none of the other parties were so foolish. For they too were atheistic, at least in the persons of their leaders. Any public charge of atheism would have ruined the opportunities of all the outstanding parties striving for power. The majority of the people embraced the idea of a revolution for peace with Germany, for the proletariat ownership of land, and for adequate food for all. They failed to look deeper, to examine the philosophy of the leaders they had chosen. Because of this, the Russian people allowed godless men, a godless philosophy, and a godless government to rule over their nation, so long known as Holy Russia.

Russian Communism is a Religion

Why is it that Communism has been so successful? Why have workers, teachers, artists, philosophers and peasants accepted this idea and why have they given their very lives for its promulgation? One answer is that Russian Communism is not just a philosophy discussed in the classrooms, it is not merely the dialectical materialism of Karl Marx. Living Communism can be called a religion, for it is very much like the religions we know. Although it is godless, Communism manifests a nature and powers that are religious. "Communism comes forward claiming to be a new religion, and it requires great stores of religious energy and great strength of religious faith if it is to be put in practice."[12]

Communism has its own orthodox theology, as a guide for its way of life. There is a mass of humanity which lives by this creed of Communism. The proponents are dedicated to their great ideal; they become witnesses and even martyrs for their cause. Through their unified dedication to the philosophy of Marx, they interminably strive to spread this idea, to universalize it. The god of this religion is social collectivity, the classless society in the ideal future. The cults of great leaders have been developed, such as Marx, Lenin, and Stalin.[13]

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[12]Nicholas Berdyaev, *op. cit.*, p. 40.

[13]Giorgio La Pira, "Marxism and Christianity: Two Antithetical Theologies," in *The Philosophy of Communism,* (New York: Fordham University Press, 1949), pp. 2-5.

Although Karl Marx rejected the Jewish religion, he never lost the Jewish spirit of messianism. This idea found expression in his Utopia of the proletariat. This idealistic, classless society was an idea which easily took root in the soil of the Russian people, for they too had a solid tradition of messianism. For centuries they had looked for the triumph of Russia and for the establishment of Moscow as the Third Rome. This striving for a great ideal has been incorporated subconsciously into the Russians' acceptance of Communism. In the words of Berdyaev, "the Russian people are to send forth a light that will illuminate the *bourgeois* darkness of Western Europe."[14] Psychologically, then, the adherents to Communism consider themselves members of a religious faith, living and dying for the ideals of the Third International.

Russian Communism and Supernatural Religions

The policy of the Russian government and of Communism has been consistent toward the bourgeois religions. Religions are superstructures of a class society, and, therefore, they are contradictory to the doctrine of Communism. As long as they remain, the revolution is impeded. Lenin had always realized this and he made it possible after the October Revolution of 1917. The thirteenth article in the Constitution of the Russian Socialist Federal Soviet Republic (July 10, 1918) stated that there would be freedom of religious and anti-religious propaganda.[15] The actual effect of this was *war on religion.*

The same tactics have not been employed continuously in this bitter persecution of religion. From time to time, according to the needs of internal circumstances and of foreign policy, the methods used against religion have been altered. Direct and violent opposition existed from 1917 until 1939 and again from 1953 until 1954. From 1939 until 1953 an external compromise with religion was established. The reason for this is that these were years of war (and the possibility of another war); international struggle demanded a peaceful and a united home front. At the present time the Communists are continuing their policy of persecution, but now it is quieter and even more subversive. Khrushchev placed an emphasis on scientific and philosophical arguments against

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[14]Nicholas Berdyaev, *op. cit.*, p. 26.
[15]N. S. Timasheff, *op. cit.*, p. 22.

religion. Through this technique they are trying to confuse religion with superstition.[16]

Forty years ago, Lenin put into effect the war against religion. Stalin, Malenkov and Khrushchev pursued this battle. They have not won! Today in Russia there are still many indications of religious life. Workers will absent themselves from the factory to attend religious festivals. The people will travel many miles on a pilgrimage to a traditional shrine. Even the youth, the intellectuals, and party members can be found to be devout and practicing Orthodox. As Father Bissonette said, "God is not dead in the Soviet Union."

Lambert Trutter, O.P.

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[16]N. S. Timasheff, "The Anti-Religious Campaign in the Soviet Union," in *The Review of Politics,* (Notre Dame: University of Notre Dame, July, 1955), pp. 329-344; Waldemar Gurian, *Bolshevism: Theory and Practice,* tr. by E. I. Watkin, (Sheed and Ward, 1932), pp. 331-351.

MARY'S SHARE IN THE WORK OF REDEMPTION

One of the Most Outstanding Characteristics of the Catholic Church, as contrasted with almost all other christian sects, is its devotion to the Mother of God. This is clearly illustrated by the fact that the dogma concerning Mary has undergone extensive development over the course of centuries. While devotion to her is widespread, the comprehension of many of her unique prerogatives is often vague and uncertain. For example, that Mary plays a singular part in the divine plan for our salvation, has been the constant sentiment of Catholic tradition. Yet, how many are there who understand, in all its phases and ramifications, just exactly how great a part she did play? It is a point of the utmost practical importance in our spiritual lives. For if she had a share in the work of obtaining the graces necessary for our salvation, she will certainly have a corresponding share in the dispensing of those same graces to us here and now.

The object of this study will be to determine as far as possible the extent of Mary's cooperation in the work of the redemption of mankind. We will attempt to examine the opinions of theologians and to attain some sort of a unified picture of what modern Mariology teaches. Opinion is often very much divided and so synthesis is not always easy. But with the different sides of the debate before us, we can then draw conclusions for ourselves, seeing the weak points and the strong ones in each argument.

Before proceeding to the explanation of the doctrine, it will be necessary to explain what we mean by the term "co-redemption." From

its very name it implies an "active cooperation in the work of redemption". But the question then naturally presents itself, what do we understand by "redemption."

There are three basic elements in the notion of redemption: 1. the loss of something once possessed; 2. the recovery of the thing lost; and 3. the payment of some price for the recovery of the thing lost. This is a general notion. Applying this to the redemption of the human race, we come up with a definition something like this: "Redemption is an act by which man, having fallen through sin, was snatched from slavery to the devil and reintegrated into the friendship of God, by means of the sacrifice of satisfaction and merit of Christ." Here we have verified the three basic elements: 1. the loss of grace through sin; 2. the recovery of grace; and 3. the payment of a due price—the satisfaction and merit of Christ.

Thus when we speak of co-redemption, we mean to designate precisely Mary's share in the work of man's supernatural rehabilitation as effected by her Son. Moreover our purpose is to try to determine more accurately the magnitude and extent of that share.

Another preliminary point which should be mentioned is the distinction commonly made by authors between the objective redemption and the subjective redemption. By the term objective redemption is meant that act by which the benefits of the redemption were actually acquired, i.e., it consists in the very obtaining of grace. The subjective redemption, on the other hand, consists in the application or dispensing of grace. The value of this distinction here is only that it helps us to precise further our topic of discussion. We are not speaking about the subjective redemption, so that unless otherwise explicitly stated, when we say redemption, we intend to indicate it in the objective sense.

DID MARY CO-OPERATE AT ALL IN THE REDEMPTION OF MAN?

As has already been pointed out, the study of Mary as our Co-redemptress is a study of her *cooperation* with her Son in the work of redemption. To a large extent, then, any conclusions which we are able to reach will depend on the type of cooperation she had. We can distinguish two kinds of cooperation: (1) remote or mediate and (2) proximate or immediate. Mary's cooperation would be merely remote

if it was restricted to a participation with Christ in those actions previous to the redemptive act. On the other hand, it would be immediate if it included a participation in the very act of redemption.

How, then, was the Mother of the Redeemer associated with Him in His work? Did she cooperate with Him at least mediately or remotely?

To our knowledge there is not one Catholic theologian at present who teaches that the Blessed Virgin in no way cooperated with Christ in the work of our salvation. Indeed, looking at tradition, it would be tantamount to heresy to maintain such a position. The doctrine of Mary as the Second Eve was almost universally accepted and taught as early as the second century. The Fathers who taught it then did not regard this concept as the fruit of their own personal speculation or devotion, but as the traditional teaching of the Church supported by the passages from St. Paul which describe Christ as the Second Adam. (1 Cor. 15:45; Rom. 5:12; 1 Cor. 15:20-23) Comparing what St. Paul said with what had been stated in the first few chapters of Genesis as well as with the Gospel account of the Annunciation, they rightly drew the comparison between Eve's role in the fall of man and Mary's role in the redemption. No one can deny that Eve cooperated in some manner in the fall and similarly neither can Mary's cooperation with Christ be denied.

She was also associated in the work of our salvation in so far as she merited the Incarnation. Not, indeed, that she merited the Incarnation in itself, but that she, by her desires and prayers, merited an acceleration in the time of the Incarnation and that, presuming the decree of the Incarnation, she merited that it should happen through her.[1] And St. Thomas again points out that "she merited, from the grace given to her, that degree of purity and sanctity which fitted her to be the mother of God."[2]

Nor is there any doubt that, during those long years of our Lord's hidden life, Mary was "joined with Him in a most close and indissoluble bond," as Pope Pius IX tells us.[3]

Finally, as we all know, the objective redemption of the human race began and, we might say, was virtually accomplished in the very

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[1]St. Thomas, III *Sent.*, d. 4, q. 3, a. I, ad 6.
[2]*Sum. Theol.*, III, q. 2, a. II, ad 3.
[3]*Ineffabilis Deus* tr. NCWC, (December 8, 1854).

act of the Incarnation. The assumption of human nature by the Second Person of the Blessed Trinity was an act ordered directly to the purpose of reconciling man with God. Let us recall to mind the pericope of the Annunciation. Gabriel said to Mary, "and behold thou shalt conceive in the womb and shall bear a son, and thou shall call him Jesus." (Luke 1:29) The name to be given to her Son meant "savior". Mary was certainly well versed in the Messianic prophecies, especially those of Isaias, which foretold the suffering of the promised redeemer. Now the Angel has explained the part she will play in the plan of God and seeks from her her consent to this plan. Absolutely speaking, the Blessed Virgin remained free to consent or not to consent. She could see, on the one hand, the ocean of sorrow reserved for her as mother of the suffering Messias; but on the other hand, she could also see all the human generations, past, present and future, which were anxiously awaiting salvation. She, as it were, stood in the middle. Thus by uttering her 'fiat' she accepted in advance for her Son and for herself all the suffering which the redemption of man would involve.

All modern Mariologists are in agreement that this most generous acceptance of such a sorrowful mission constituted a true cooperation on the part of the Blessed Virgin in the work of our salvation. Not all would agree, however, that it constituted an *immediate* or proximate cooperation. Rather than enter into the controversy on this point, we will attempt to explain why the majority group asserts its position.

MARY CO-OPERATED IMMEDIATELY IN THE WORK OF THE REDEMPTION

In general, we will follow here the argumentation of Fr. Gabriel Roschini, O.S.M., an eminent and eloquent Mariologist.[4]

To begin with, we must determine accurately just exactly what is required in order that a moral action can be said to directly and immediately cause an effect. We say a moral action, since the redemption is an act in the moral order, ordered to the meriting of grace for mankind.

For this there are two necessary conditions, namely, efficacy and intention. The action must efficaciously bring about the effect and the person acting must intend the effect. By reason of the first condition there is a true influence exercised by the act in the accomplishing of

[4]Cf. *Summa Mariologiae,* (Rome: Belardetti, 1947), pp. 289-99 and passim.

the effect. By reason of the second condition this influence is rendered immediate. But, how can the mere intention of the effect render the moral action immediate to the effect? For the answer to this question we must recall the differences between a moral action and a physical action.

Generally speaking, a physical action, before it arrives at its effect, must proceed by various steps and can't attain the effect except in an indirect or mediate way. A moral action, on the other hand, which is performed by acts of the intellect and will, can attain its effect immediately, in one act, without passing gradually from step to step. As St. Thomas says, it is proper to intention to attain immediately the end without considering the means.[5] Thus common sense tells us that when an end or effect, whether good or bad, is intended by an agent it is to be imputed to him, even though his physical causality in the act may be very remote. Witness the doctrine on co-operators in sin. On the other hand, when it is a case of merely physical causes, the effect is attributed immediately only to that cause most proximate to it. An example might help to illustrate.

Suppose that an earthquake loosens a large boulder which rolls down the mountain and hits one corner of a house. The house caves in and kills a family. The death of the family (the effect) is attributed immediately and directly to the collapse of the house and only indirectly or mediately to the earthquake or the boulder.

With moral causes the case is entirely different. For example, John, a worker, decides to murder his employer. However, being a bit timorous by nature, he hesitates to perform the act unless Bill, a fellow worker, agrees that it would be good to have the boss out of the way. Bill thinks it is a great idea and so John kills the boss. Now, while it is true that John is the only proximate and immediate physical cause of the murder, yet he is not the only immediate moral cause. Bill is also an immediate moral cause since his consent to the plan was a condition 'sine qua non'; his consent had an immediate influence in the evil effect.

Having noted this, let us now try to see whether the consent of the Blessed Virgin at the Annunciation fulfilled these two necessary conditions, namely efficacy and intention. If so, then we can affirm without

[5]Cf. *Sum. Theol.*, I-II, q. 12, a. I ad 4.

hesitation that she was an immediate cooperator in the effect, which was our redemption.

First, did Mary's consent efficaciously influence the work of human salvation? The affirmative answer to this question seems obvious from the fact that the Gospel account of the Annunciation places Mary's 'fiat' in the category of a (hypothetically) necessary condition. God *asked* her consent to His plan. He did not wish to begin the work of redemption without her free consent. Thus, her approval had a real efficacious influence in the redemptive work. Why did God ask her consent to His plan? St. Thomas notes that, just as the ruin of mankind was begun by Eve's consent to the designs of the devil, so it was most in accord with divine wisdom that man's redemption be initiated by Mary's consent to the message of the Archangel.[6]

Granted, then, that Mary's "fiat" had an efficacious influence in the Incarnation and subsequent redemption. Did she really intend the Incarnation as redemptive? I think we can answer in the affirmative without hesitation. The Angel had told her, "You shall call His name Jesus." This name, of course, means "savior." Mary was agreeing to a redemptive Incarnation and with her knowledge of the Old Testament prophecies, a redemptive Incarnation that would involve much suffering. She could also see clearly that as mother of the Savior she would have a special share in those sufferings.

While this one act of generosity on her part would be sufficient to show her immediate cooperation in the work of salvation, our case need not rest solely on this. Was not her presence on Calvary a sign that she also gave consent to the consummation of that same work of redemption?

In his Apostolic Letter, *Inter Sodalicia,* Pope Benedict XV states: "She immolated her Son in order to appease the divine justice, in such a manner that we may rightly say that she redeemed the human race together with Christ."[7]

And Fr. Charles Boyer, S.J., writes, "the presence of the Mother standing close by her divine Son on Golgatha is a guarantee that her consent was given at that supreme hour . . . . The Blessed Virgin, also in the midst of great suffering, gives her consent and sacrifices a

[6]Cf. *Sum. Theol.,* III, q. 30, a. 2.
[7]Tr. NCWC, March 22, 1918.

life which is dearer to her than her own . . . . She offers her Son for the salvation of the world."[8]

Fr. Merkelbach, O.P., points out that "through her consent and desire, Mary morally influenced her Son and disposed him to accomplish the redemption of mankind."[9]

From all that has been said, there is little doubt that Mary co-operated immediately in the work of our salvation. Wonderful as this is, yet we must not forget that any type of co-redemption is limited and deficient. Christ, alone, is the principal, essential, independent, necessary and absolutely universal redeemer of the human race. If we keep that in mind, we need not fear that we are derogating from the honor due to Christ when we attribute prerogatives to His mother.

It remains for us now to attempt to ascertain the precise modality of Mary's co-redemption. St. Thomas distinguishes five ways in which the passion and death of Christ effected our salvation: by means of merit, satisfaction, sacrifice, redemption and efficient cause.[10] Accordingly, theologians, when speaking of Mary's cooperation with Christ, generally divide it also into these five aspects. However since any one of these titles would confer on our Blessed Lady a strict right to the title of Co-redemptrix, it will not be necessary to examine each of them. We will limit ourselves to a consideration of her cooperation *per modum meriti.* It is a most interesting study because of the great differences of opinion on this point, but more than that it is also of great practical significance. For while it is true that the principal aspect of Christ's redemptive act was that of satisfaction, i.e., of appeasing divine justice, of removing the obstacle to man's re-introduction to friendship with God, still from the more practical standpoint of how we can attain this intimate friendship with God, the question of merit is more important. It is because Christ, and under Him the Blessed Virgin, merited grace for us that we can become friends of God. How, then, did Mary merit grace on our behalf?

MARY MERITED OUR REDEMPTION AT LEAST DE CONGRUO

Until recent years there was almost universal agreement among theologians that Mary merited *de congruo* for the whole human race.

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[8]"Thoughts on Mary's Co-Redemption", *American Ecclesiastical Review*, CXXII (1950), pp. 410-412.

[9]*Tractatus de Beatissime Virgine Maria*, (Paris, 1939), p. 342.

[10]*Sum. Theol.*, III, q. 48.

The traditional thesis is well summed up by Pope St. Pius X, "Mary, since she surpassed all in sanctity and union with Christ and since she was joined to Christ in the work of human salvation, merited for us *de congruo,* as they say, what Christ merited for us *de condigno.*"[11]

Before attempting to discover the reasons for this more common theory, we must first briefly define and divide our notion of merit.

Merit, in general, is a right to a reward. Supernatural merit, which presupposes grace and charity, is a right to a supernatural reward. Merit is opposed to guilt, debt, or penalty of sin. Thus, just as sin leaves a stain which is a deformity in the soul and deserves punishment, so also a meritorious act leaves a certain dignity or beauty in the soul and deserves reward. Merit makes one worthy of a reward and necessarily includes a proportion or ordination to the reward.

There is little unanimity among authors as to the proper division of merit. Yet that proposed by Fr. Ciappi, O.P., seems to include and pretty well synthesize all the others:[12]

Merit (in relation to God)
- secundum quid
  - de congruo
    - proprie
    - improprie
  - de condigno ex condignitate
- simpliciter

A short explanation of this schema will be necessary.

1. Merit *simpliciter* is that which is according to an absolute equality between the person performing the good work and the person giving the reward. This equality flows from justice in its full rigor and strictest sense and does not presuppose any grace received gratuitously from God. We might call this type of merit 'de condigno perfecte' and it is proper to Christ alone.
2. Merit *secundum quid* is not according to strict justice but rather according to a likeness or kind of proportion between the man performing the work and God giving the reward.

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[11]Encyclical, *Ad Diem Illum,* tr. NCWC, (February 2, 1904). Among the theologians holding to this theory we can name: Scheeben, Billot, Hugon, Merkelbach, Garrigou-Lagrange, Nicholas, Roschini, Lepicier, Dillenschneider and many others.

[12]Aloysius Ciappi, O.P., *Notes From Special Course in Mariology,* (Rome, 1952), p. 6.

A. *de condigno ex condignitate*: According to an equality, not only between the worker and the rewarder, but also between the work and its reward. Thus, a man in the state of grace can merit an increase of grace for himself.

B. *de congruo*:

a. *proprie*: according to proportional equality based on supernatural friendship, which presupposes sanctifying grace. Thus can a just man merit for other people.

b. *improprie*: founded on a certain fittingness and divine liberality. Even a sinner can merit in this way.

Having noted this division, there are still several very important things to bear in mind. First of all, everyone agrees that perfectly or simply condign merit is proper to Christ. The reason is that of all the persons possessing human nature, He alone is equal to God. Secondly, it has been solemnly defined by the Council of Trent that "every person in the state of grace . . . can merit an increase of charity and eternal life by a merit commonly termed *de condigno*."[13] This, of course, is the *ex condignitate* in our division. It means that a person in the state of grace is able to perform acts which are really worthy of a supernatural reward, not because they are fully equal to it, but because they are proportionally equal to it. The reason is because they proceed from grace which is the seed of glory, which glory God has *promised* to those who keep His commandments.

Thirdly, a human person, even though in the state of grace, cannot merit grace *de condigno* for another. The reason is because the grace given by God to a man is proportionate to his own proper sanctification, and not for the benefit of others. As Fr. Friethoff, O.P. points out: "The equality between our work and the reward is created by grace and hence cannot reach higher than the grace which is its principle. But God gives us this grace in order that we might reach heaven by it, but not to bring others to heaven."[14]

Christ, of course, was constituted head of the human race and therefore His capital grace was not only ordered to His own proper sanctification, but also, strictly, to our regeneration. He alone is the true and proper head. In another order of divine providence there might indeed

[13]Session VI, c. 32. (Denz. 842)

[14]C.X.M.J. Friethoff, O.P., *A Complete Mariology*, (London, Blackfriars, 1958), p. 184.

have been secondary heads in the proper sense. De facto, however, as St. Thomas says, that title has not been delegated so that the "unfitingness of having many heads might be avoided."[15]

Simply, no human being could merit *de condigno* even for himself were it not for a divine promise and efficacious movement assuring us that such a reward would be given for the acts we perform while in the state of grace. Where we have no such promise or ordination it seems to be at least rash to suppose that a reward will be given by God from a right due in justice. Where He has not established that there is at least proportional equality between a certain act and the reward He will give for that act, what right have we to establish such equality?

This is most in accord with the teaching of St. Thomas and the common doctrine of theologians. The Angelic Doctor attributes merit *de condigno,* in relation to others, always and only to Christ, by reason of His grace as head of the human race.[16] Yet he fully recognized that the Blessed Virgin Mary, after Christ, had the greatest plentitude of grace that it was possible for a human being to have. Still he never taught that her grace, wonderful as it was, was sufficient to merit *de condigno* for others. Perhaps he though that this divine ordination of her grace to the salvation of others is lacking.

Merit *de congruo* is another thing entirely. It is based on a right due from the fact that a person is elevated to supernatural friendship with God. St. Thomas explains it in these words: "Since a man in the state of grace does God's will, it is in keeping with the rights of friendship that God should do his will in saving another person—although it can happen at times that there will be an obstacle on the side of the other person."[17] Thus, for example, could St. Monica merit *de congruo* for her son Augustine. Naturally the stronger and more perfect the bond of friendship, the more surely will the rewards be distributed by God. From this notion we can gather some idea of the efficacy and extent of Mary's merit *de congruo* for us. She was saluted by the angel as "full of grace." The Council of Trent has proclaimed that "in her whole life she avoided all sins, even venial."[18] Therefore it is most fitting that God, according to this right of friendship, fulfill the whole and entire will of Mary. It seems impossible that God would ever refuse to grant the requests of one so

[15]*Sum. Theol.,* III, q. 64, a. 4 ad 3.
[16]Cf. *Sum. Theol.,* I-II, q. 114, a. 6.
[17]*Ibid.*
[18]Session 6, c. 23. (Denz. 833)

closely bound to Him by ties of love. But whether He does refuse or not, the point is that He is in no way compelled by the demands of justice. The grace which has been given so lavishly to the Blessed Virgin, just as the grace which He grants to us, on a smaller scale, is ordered to her own personal sanctification and eternal glory and is incommunicable to others. When she performs a good act, God has promised that He will give a reward for that act, but that reward is due her in justice only for her own sanctification. For great as her grace was, still there was no proportion or equality between her meritorious acts and the graces necessary for the whole human race.

Yet this is not to minimize the effects of Mary's merit. We can merit for others only *de congruo;* Mary can merit for others only *de congruo.* Therefore we have minimized the efficacy of her grace and merit. I think not. There are still two important differences between her merit and that of every other human person. The first is that she merited the acquisition (objective redemption) of grace while we can merit only its application. And secondly, her merit *de congruo* had the same extension as did Christ's merit *de condigno.* In other words, she merited all the grace that would ever be given to others, while our merit for others is very limited and feeble, depending, of course, on our friendship with God. As the mother of us all, she has for us a strong maternal love which not only has been in some way responsible for acquiring all the graces we receive but also plays a vital role in the day by day distribution of those graces.

DOES SHE ALSO MERIT DE CONDIGNO FOR US?

What we have so far said represents the general teaching of most theologians since the Middle Ages. The few exceptions to this singular unanimity were looked upon as close to heresy. In the past twenty years, however, the movement to attribute greater value to the merit of the Blessed Virgin Mary in the work of the objective redemption has definitely taken hold—and that not only among so called innovators but also among many noted Mariologists who have "switched sides" in the controversy.[19] Men who have championed a cause for the better part of a lifetime would certainly be reluctant to abandon their position without good reason. This, I believe, is cause enough to agree that their theory warrants our consideration.

[19]Cf. Friethoff, *op. cit.,* p. 200.

It would seem that this particular opinion arose more or less from a reluctance on the part of some to attribute to the Blessed Virgin no more than specifically the same kind of grace and merit that all other human beings possess. They feel that her grace should be different because of her close relationship with Christ our head.

They agree, of course, that we receive sanctifying grace as private individuals and that in virtue of that grace we can merit *de condigno* for ourselves alone; that it is given to us for our own salvation. They also rightly maintain that Christ is more than a private individual: He is the head of the Church and, as a result, the grace (capital) that He enjoys serves not only His own sanctification but is also ordered to the sanctification of the whole Mystical Body. He, therefore, merits *de condigno* perfectly not only for himself but also for us. Their line of reasoning is this: they believe it is a mistake to conclude from the fact that Jesus alone is our Head, to the fact that he alone can merit for us *de condigno*. Mary, too, is more than just a private individual for she is chosen by God to be a companion to our mediator in the work of redemption. Therefore God must have given her grace in keeping with the work of saving all men. Not, indeed, a capital grace, but, they say, a social grace. Probably the outstanding spokesman of those who hold that the co-redemptive merit of the Blessed Virgin Mary was *de condigno* is Fr. Marcellianus Llamera, O.P.[20] He takes as his starting point the analogy between the mediation of Christ and the mediation of the Blessed Virgin Mary. His argument, in general, is the following:

> The spiritual maternity or maternal grace stands in relation to the corredemptive merit of Mary, as the capitality or capital grace of Christ stands to the redemptive merit of Christ.
>
> But Christ, by reason of His capital grace, merits *de condigno* (perfectly) the grace of our redemption.
>
> Therefore, Mary, in virtue of her spiritual maternity, merits *de condigno* (*ex condignitate*) the same graces.

That is the general argumentation he uses. More particularly he reasons further:

> In the maternal merit of Mary are found the three conditions required for *de condigno* (*ex condignitate*) merit, viz.: 1) most perfect and sufficient grace, by reason of the fulness required by her double maternity; 2) the moral representation of the whole human race (as the

[20]Others holding this theory are: Lebon, Carol, Friethoff, Fernandez, Garcia Garces, Balic, Bittremieux, and Cuervo to mention a few.

New Eve and universal mediatrix); and, 3) a divine-intrinsic ordination of her maternal grace to the acquiring of the salutary grace of all, just as the life of the mother is ordered to the life of her children.

This ordination is called "divine" since the Blessed Virgin Mary has received from God her maternal mission and its corresponding maternal grace.

The *de congruo* corredemptive merit, concludes Fr. Llamera is irreconcilable with the spiritual maternity of Mary, which is reconcilable *only* with *de condigno* merit. It is, therefore, a question of a "maternal condign" merit, distinct both from the "capital condign" merit of Christ and the simply "filial condign" merit of all other people."[21]

Granted, however, that Mary's spiritual motherhood of all men demands something over and above the ordinary, must we thereby attribute to her a specifically different kind of merit? Are we derogating from the honor and glory of the Blessed Virgin Mary by granting to her the power to merit only *de congruo* on our behalf? I do not thing so because, as we have pointed out already, she has not only merited *de congruo* in the very *acquisition* of grace, but she has merited *de congruo* on behalf of *all* men, both of which are beyond the capacity of every other human being. We might offer a further objection to this theory by examining the true concept of *de condigno* merit.[22] Merit *de condigno* is had *only* "when there is found to be present an *equality* (aequalitas) between the reward and the merit."[23] "There is required for *de condigno* merit an equivalence or an intrinsic proportion of the work to the reward."[24] This equivalence, however, may not be present on the part of the Blessed Virgin Mary because her act of satisfaction does not seem to have an infinite efficacy, which would needs be present to satisfy for our sins, since a sin against God has a certain infinity about it. If the Blessed Virgin Mary could not satisfy for us *de condigno,* it follows that neither could she merit for us *de condigno.*

Nor does it seem to suffice for having this equivalence, to have a divine ordination or acceptance of the merit of the Blessed Virgin Mary to the redemption of others. If this were merely external it would in no way *intrinsically* change her meritorious acts so that what was intrinsically un-equal would now be equal. This divine acceptance would only render her merit *sufficient.*

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[21]Cf. *Acts of 8th International Marian Congress,* (Rome, 1950), p. 244 ff.
[22]Cf. Roschini, *op. cit.*, p. 367 ff.
[23]St. Thomas, *II. Sent.*, d. 27, q. 1, a. 3.
[24]*Sum. Theol.*, I-II, q. 114, a. 3 ad 3.

Thus for truly condign merit, i.e., merit from true justice, two things are required, namely, the equivalence of the work and the reward, and this divine acceptance. Neither sufficies without the other.

Furthermore, in order to merit condignly for others, capital g seems necessary, i.e., it is required that the one meriting be the h of those for whom he is meriting. Thus, since Christ is the head of all people, He can merit *de condigno* for others. The Blessed Virgin Mary, however, is in no way able to be called a head of the Church, since she is a member of it, albeit the highest member. Universal tradition is stubborn in reserving to Christ alone the title of head.

There are several points which it might be well to make before bringing this study to a close. First of all, much of the difference of opinion, although obviously not all of the difficulty is, I believe, traceable to terminology; it is more a case of discrepancies in words rather than in concepts. As a matter of fact, oftentimes one can read one or another Mariologist on this point, follow his arguments, and note the similarities right down the line between what he says and what someone else says. Then, when it comes to stating his conclusion, one discovers he uses just the opposite terminology. As yet, no one has come up with a new set of words favorable to all and if he did, there is just enough difference in the ideas of some to keep the argument going.

Yet, the Church has not defined the matter, and so controversy is permissible and good. Certainly, at this time, in view of tradition, papal documents and sheer weight of numbers, the theory that Mary's merit on our behalf is *de congruo,* is both *probabilior* and *tutior.* On the other hand, those in favor of *de condigno* merit do present some, at least, superficially compelling reasons to support their claims. However, the motive in each case seems to be a desire to give Mary something more, to assure her of a more pre-eminent place in our devotion. Sometimes Mariologists have a tendency, precisely on account of the greatness of the Mother of God, to attribute to her graces and other prerogatives for which they can offer no satisfactory theological argument. They seem to lose sight of the fact that Mary is an effect of God, albeit a most perfect one, and that our study of her is ordered to the greater knowledge and love of God. We know God through His effects; we should know Him best through Mary, His most perfect, purely human effect.

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